



FIVE-YEAR REVIEW REPORT

**Third Five-Year Review Report
Sand Creek Industrial Superfund Site
Denver, Denver County, Colorado
And
Commerce City, Adams County, Colorado**

September 2005

Prepared By:

**REGION 8
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
DENVER, COLORADO**

Approved by:

Date

Max H. Dodson
Assistant Regional Administrator
Office of Ecosystems Protection
and Remediation

9/28/05

Blank Page

Table of Contents

List of Acronyms.....	iii
Executive Summary.....	v
Five-Year Review Summary Form	vii
1.0 Introduction.....	1
2.0 Site Chronology.....	2
3.0 Background	3
4.0 Remedial Actions	9
4.1 Remedy Selection	9
4.2 Remedy Implementation	12
4.3 System Operations	15
4.4 Institutional Controls	16
4.5 Progress Since the Last Five-Year Review	19
5.0 Five-Year Review Process	20
6.0 Five Year Review Findings	20
6.1 Interviews.....	20
6.2 Site Inspection.....	20
6.3 ARARs Review.....	21
6.4 Data Review for OUs 3/6.....	21
6.5 Data Review for OU4	22
6.6 Data Review for Indoor Air Sampling.....	23
7.0 Assessment.....	24
8.0 Issues	25
9.0 Recommendations and Follow-up Actions	26
10.0 Protectiveness Statements	27
11.0 Next Review	27
Tables	
Table 1: Location and Description of Operable Units	5
Table 2: Sand Creek RI/FS Documents	6
Table 3: Chemicals of Concern	12

Figures

Figure 1: Vicinity Map.....	4
Figure 2: Extent of Aquifers	7
Figure 3: Conceptual Cross-section	8
Figure 4: Landfill Gas Extraction System	17
Figure 5: Well Locations	18

Appendices

Appendix A: Gas Monitoring Probe Data	
Appendix B: Landfill Groundwater Monitoring	
Appendix C: Site-wide Groundwater Monitoring	
Appendix D: List of Documents Reviewed	

List of Acronyms

ARARS	Applicable or Relevant and Appropriate Requirements
CD	Consent Decree
CDH	Colorado Department of Health (now CDPHE)
CDPHE	Colorado Department of Public Health & Environment
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFR	Code of Federal Regulations
COC	Colorado Organic Company
CY	Cubic Yards
ECI	Environmental Consultants Incorporated
EPA	Environmental Protection Agency
GPM	Gallons per Minute
HASP	Health and Safety Plan
LCC	L-C Corporation
LFGES	Landfill Gas Extraction System
MCL	Maximum Contaminant Level
MSL	Mean Sea Level
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
NPDES	National Pollutant Discharge Elimination System
NPL	National Priorities List
O&M	Operation and Maintenance
OU	Operable Unit
PRP	Potentially Responsible Party
RG	Remedial Goal
RD/RA	Remedial Design/Remedial Action
RI/FS	Remedial Investigation/Feasibility Study
ROD	Record of Decision
SITE	Sand Creek Industrial Superfund Site
SSC	Superfund State Contract
UAO	Unilateral Administrative Order
VOC	Volatile Organic Compound

Blank Page

Executive Summary

EPA Region 8 has conducted the third five-year review of the remedial actions implemented at the Sand Creek Industrial Superfund Site (Site) located in Denver and Adams Counties, Colorado. The review was conducted from July through mid-September 2005. The results of the five-year review indicate that the remedies are expected to be protective of human health and the environment. Overall, the landfill cover and landfill gas extraction systems are operating and functioning as designed. Groundwater monitoring data suggests that the contaminated groundwater underlying the Site has remained within site boundaries. The area is also served by a municipal water supply. A few issues that do not immediately impact the protectiveness of the remedy were identified.

There is currently no concern with the implementation/enforcement of the Institutional Controls (ICs) associated with the landfill because it is owned and/or controlled by the Potentially Responsible Parties (PRPs) and the United States. However, there are no such assurances with the transfer of land in the future. EPA and CDPHE will need to work with the General Services Administration (the conveyor of land for the United States) and the other owners of the landfill to make sure that the necessary environmental covenants run with the land.

Except for those on twelve acres recently bought by a private party, ICs are not in-place to restrict use of contaminated groundwater and construction of water wells within the boundaries of the Site. EPA and CDPHE will need to work with the local governments to secure the necessary permanent ICs through the establishment of an overlay district or ordinances that restrict groundwater use and the construction of water wells within the boundaries of the Site.

Indoor air sampling has never been conducted at the Site mainly because contaminant levels are relatively low and only a few residents live in the area. As a precautionary measure, EPA and CDPHE should conduct an investigation of the indoor air pathway in the limited residential area of the Site. The purpose of the investigation would be to determine whether there is an unacceptable risk to human health from chemical vapors.

Low points in sub-header lines of the LFGES caused by differential landfill settlement are restricting drainage from the sub-headers to the condensate sumps creating intermittent gas flow blockages in the system. The PRPs will need to continuously locate partial blockages and make the necessary adjustments/repairs.

Sampling data from two wells (RW-1 and RW-5) in the north-northwestern area of the Site suggest an increasing trend in contaminant levels in the area. CDPHE will need to further investigate the north-northwestern area of the Site to determine the cause for the increasing contaminant trends in the area. Additional wells may be necessary for the investigation.

Blank Page

Five-Year Review Summary Form

SITE IDENTIFICATION		
Site name (from WasteLAN): Sand Creek Industrial Superfund Site		
EPA ID (from WasteLAN): COD980717953		
Region: 8	State: CO	City/County: Commerce City/Adams County
SITE STATUS		
NPL status: <input type="checkbox"/> Final <input checked="" type="checkbox"/> Deleted <input type="checkbox"/> Other (specify)		
Remediation status (choose all that apply): <input type="checkbox"/> Under Construction <input checked="" type="checkbox"/> Operating <input type="checkbox"/> Complete		
Multiple OUs? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO	Construction completion date: September 29, 1994	
Has site been put into reuse? <input checked="" type="checkbox"/> YES <input type="checkbox"/> NO		
REVIEW STATUS		
Reviewing agency: <input checked="" type="checkbox"/> EPA <input type="checkbox"/> State <input type="checkbox"/> Tribe <input type="checkbox"/> Other Federal Agency		
Author name: Armando Saenz		
Author title: Remedial Project Manager	Author affiliation: EPA Region 8	
Review period: July 2005 to September 2005		
Date(s) of site inspection: 8/16/2005		
Type of review: <input checked="" type="checkbox"/> Statutory _____ <div style="margin-left: 40px;"> <input type="checkbox"/> Policy (<input type="checkbox"/> Post-SARA <input type="checkbox"/> Pre-Sara <input type="checkbox"/> NPL-Removal only <input type="checkbox"/> Non-NPL Remedial Action Site <input type="checkbox"/> NPL State/Tribe-lead <input type="checkbox"/> Regional Discretion) </div>		
Review number: <input type="checkbox"/> 1(first) <input type="checkbox"/> 2 (second) <input checked="" type="checkbox"/> 3 (third) <input type="checkbox"/> Other (specify)		
Triggering action: _____ <input type="checkbox"/> Actual RA Onsite Construction at OU # ____ <input type="checkbox"/> Actual RA Start at OU# ____ <input type="checkbox"/> Construction Completion <input checked="" type="checkbox"/> Previous Five-Year Review Report <input type="checkbox"/> Other (specify)		
Triggering action date (from WasteLAN): 9/27/00		
Due date (five years after triggering action date): 9/27/05		

Five-Year Review Summary Form

Issues:

- 1) There is currently no concern with the implementation/enforcement of the ICs for OUs 3/6 because the surface area of the landfill is owned and/or controlled by the PRPs and the United States. However, there are no such assurances with the transfer of land in the future.
- 2) Outside of the landfill and the properties recently sold, ICs are not in-place to restrict use of contaminated groundwater and construction of water wells within Site boundaries.
- 3) Indoor air sampling has never been conducted at the Site mainly because contaminant levels are relatively low and only a few residents live in the area.
- 4) Low points in sub-header lines of the LFGES caused by differential landfill settlement are restricting drainage from the sub-headers to the condensate sumps creating intermittent gas flow blockages in the system.
- 5) Sampling data from two wells (RW-1 and RW-5) in the north-northwestern area of the Site suggest an increasing trend in contaminant levels in the area.

Recommendations and Follow-up Actions:

- 1) The landfill is approximately 94 acres and made up of three parcels. The United States owns a 56-acre parcel within the landfill and plans to sell it in the near future. EPA and CDPHE are currently working with the General Services Administration (the conveyor of land for the United States) to make sure that the necessary environmental covenants will be permanently placed and run with the land as with the properties recently sold. EPA and CDPHE will also need to work with the owners of the other two parcels to request similar assurances. Completion of this follow-up action is planned for the 4th Quarter of FY 2008.
- 2) EPA and CDPHE will need to work with the local governments to secure the necessary permanent ICs through the establishment of an overlay district or ordinances that restrict groundwater use and the construction of water wells within the boundaries of the Site. Completion of this follow-up action is planned for the 4th Quarter of FY 2008.
- 3) As a precautionary measure, EPA and CDPHE should conduct an investigation of the indoor air pathway in the limited residential area of the Site. The purpose of the investigation would be to determine whether there is an unacceptable risk to human health from chemical vapors. Completion of this follow-up action is planned for the 4th Quarter of FY 2006.
- 4) The PRPs will need to continuously locate partial blockages and make the necessary adjustments/repairs. This follow-up action is ongoing.
- 5) CDPHE will need to further investigate the north-northwestern area of the Site to determine the cause of the increasing contaminant trends in the area. Additional wells may be necessary for the investigation. Completion of this follow-up action is planned for the 4th Quarter of FY 2007.

Protectiveness Statement(s):

OUs 1, 2 and 5 are complete and protective of human health and the environment. OUs 3/6 and 4 are expected to be protective of human health and the environment. The landfill cover and landfill gas extraction systems are operating and functioning as designed. Groundwater monitoring data suggests that the contaminated groundwater underlying the Site has remained within site boundaries. The area is also served by a municipal water supply.

Sand Creek Industrial Superfund Site

Sand Creek Industrial Superfund Site Third Five-Year Review Report

1.0 Introduction

EPA Region 8 has conducted a third five-year review of the remedial actions implemented at the Sand Creek Industrial Superfund Site (Site) located in Denver and Adams Counties, Colorado. This review was conducted from July through mid-September 2005. This report documents the results of the review. The purpose of five-year reviews is to determine whether the remedy at a site is protective of human health and the environment. The methods, findings, and conclusions of reviews are documented in five-year review reports. In addition, five-year review reports identify issues found during the review, if any, and identify recommendations to address them.

This review is required by statute. EPA must implement five-year reviews consistent with the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) and the National Oil and Hazardous Substances Pollution Contingency Plan (NCP). CERCLA §121(c), as amended, states:

If the President selects a remedial action that results in any hazardous substances, pollutants, or contaminants remaining at the site, the President shall review such remedial action no less often than each five years after the initiation of such remedial action to assure that human health and the environment are being protected by the remedial action being implemented.

The NCP part 300.430(f)(4)(ii) of the Code of Federal Regulations (CFR) states:

If a remedial action is selected that results in hazardous substances, pollutants, or contaminants remaining at the site above levels that allow for unlimited use and unrestricted exposure, the lead agency shall review such action no less often than every five years after the initiation of the selected remedial action.

This is the third five-year review for the Site. The triggering action for this review is the completion of the second five-year review on September 27, 2000. Due to the fact that hazardous substances, pollutants, or contaminants remain at the Site above levels that allow for unrestricted use and unlimited exposure, another five-year review is required.

2.0 Site Chronology

- 1940s:** Well located on nearby property found to contain gasoline.
- 1961:** Colorado Department of Health (CDH) conducts earliest documented investigation of contaminated groundwater.
- 1976:** CDH memo associates Shell Chemical to acids in ponds at Site.
- 1977:** Two explosions that kill two men and injure five others are traced to landfill.
- December 30, 1982:** Site proposed for listing on the National Priorities List (NPL).
- September 8, 1983:** Final Listing on NPL.
- 1987:** Baseline Risk Assessment.
- 1988:** Site-wide Remedial Investigation/ Endangerment Assessment.
- 1989:** Record of Decision (ROD) OU1.
- 1990:** ROD OU5.
- 1993:** ROD OU2, "no further action" alternative.
- 1993:** ROD OU3/6.
- 1993:** Explanation of Significant Differences OU1.
- 1993:** ROD Amendment OU5.
- 1994:** ROD OU4.
- September 29, 1994:** Preliminary Site Close-out Report.
- 1995:** First Five-Year Review.
- January 11, 1996:** Final Close-out Report.
- December 20, 1996:** Site Deleted from NPL.
- 2000:** Second Five-Year Review.

3.0 Background

Location. The Site is located approximately 5 miles northeast of downtown Denver, Colorado in a heavy industrial area. It resides partly within the City of Denver in Denver County and partly within Commerce City in Adams County. The Site occupies about 550 acres. Approximately 300 acres comprises the area affected by remediation efforts. The study area is bounded on the north by Sand Creek, on the south by 48th Avenue and on the east by Ivy Street and the eastern extent of the 48th and Holly Landfill. The western boundary is approximated by Dahlia Street, Colorado and Vasquez Boulevards. See Figure 1.

Land Use. Land use near the Site is primarily industrial and includes trucking firms, petroleum refining operations, chemical production and supply companies, warehouses and small businesses. The Site and properties adjacent to the Site are zoned for light and heavy industrial uses. Fifteen residences (approximately 25 people) are located within a one-mile radius of the Site. The daytime population reaches several hundred because of the local businesses and industrial nature of the area.

Properties, owned or controlled by the United States, were recently sold to a private entity. The properties are within the Site near the corner of Dahlia Street and 52nd Avenue. They included a warehouse known as the "Matteson Warehouse" and two parcels adjacent to the warehouse known as the "four-acre parcel" and the "railroad property." The properties totaled approximately 12 acres.

The United States also owns a 56 acre parcel of land known as the "Colorado Paint Property." The parcel is part of the 48th and Holly Landfill.

History. Four sources of contamination (all currently inactive) are known at the Site: Colorado Organic Company (COC) property, L-C Corporation (LCC) property, Oriental Refinery property, and the 48th and Holly Landfill. COC manufactured pesticides beginning in the 1960s and intermittently through 1984. There was a serious fire at the COC property in 1968. In 1974 the Tri-County District Health Department cited COC for unsatisfactory waste practices and unsatisfactory worker safety conditions.

The LCC property has been used for industrial purposes since 1948. In 1968 LCC contracted with Shell Chemical Company to use the property for storage and neutralization of spent acidic wastes from Shell's herbicide chemical plant at the Rocky Mountain Arsenal. In 1974, livestock that strayed onto the property contracted severe chemical burns from contact with the acid pits.

The Oriental Refinery property was the site of a fire in 1955 which resulted in the release of approximately 48,000 gallons of refined petroleum products.

At the landfill, waste disposal operations were conducted between 1968 and 1975, during which time, demolition and domestic refuse were accepted. In 1977, two explosions, that killed two men and injured five others, were traced to the migration of methane gas from the landfill.

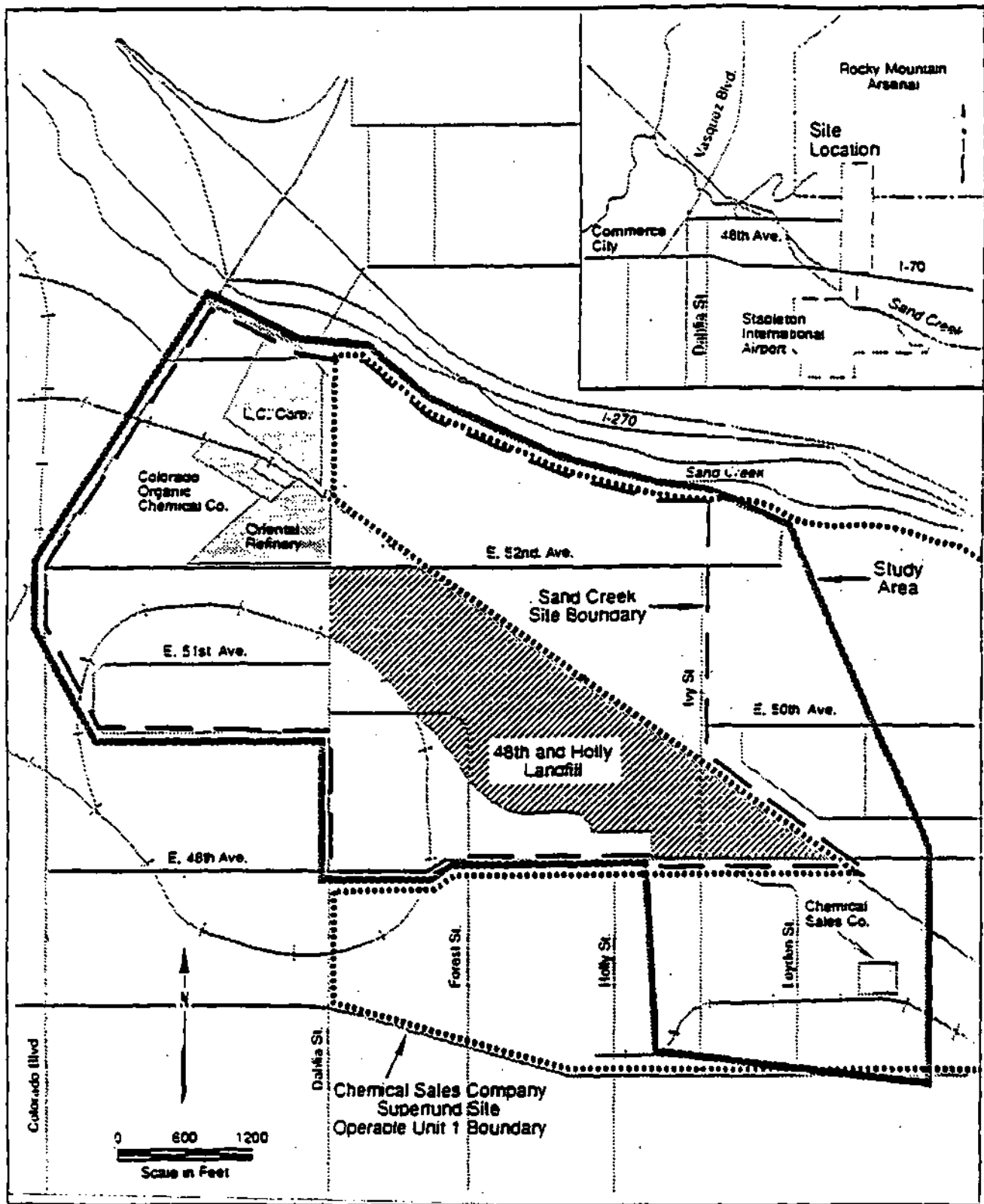


Figure 1: Vicinity Map -- Sand Creek Industrial Superfund Site

Colorado Department of Public Health and the Environment (CDPHE), formerly known as the Colorado Department of Health (CDH), and a variety of local agencies began intensive studies of the Site contamination about the mid-1970s. EPA involvement began around 1980. Because of the serious environmental hazards at the Site (landfill gas, pesticides, refinery wastes, etc.), it was designated as a Superfund site and proposed for inclusion on the National Priorities List (NPL) on December 30, 1982. The final date for NPL listing was September 8, 1983.

A Site-Wide Remedial Investigation (RI)/Site Characterization Report for the Sand Creek Industrial Superfund Site was completed on March 4, 1988. Sampling and analyses in 1987 detected more than 75 compounds in the Site's soil, groundwater, and surface water. Of the 75 compounds initially detected, 20 were designated as contaminants of concern, including volatile organic compounds (VOCs), pesticides, and heavy metals.

Eventually, because of the complex nature of the Site, it was divided into six study regions known as operable units (OUs). The OUs are described in Table 1. Also see Figure 1.

OUs 1, 2 and 5 are "Fund Lead" meaning that the cost of cleanup is being paid by the Federal Trust Fund ("Superfund"). OUs 3, 4 and 6 are "Potentially Responsible Party (PRP) Lead" meaning that the cleanup is being funded by private sources. OUs 3 and 6 also address the same geographical area (i.e. the landfill) and were addressed in one ROD.

Table 1: Location and Description of Sand Creek Operable Units

OU	Location	Description
1	COC Property	Contaminated Buildings and Deep Soils
2	LCC Property	Acid Pits
3	Landfill	Soils, Groundwater, Surface Water
4	Groundwater	Site-Wide
5	COC Property	Surface and Shallow Soils
6	Landfill	Methane Gas

Subsequent to the Site-Wide RI, some additional investigation and characterization was necessary, resulting in several RIs and Feasibility Studies (FSs) for individual OUs (Table 2).

Table 2: Sand Creek RI/FS Documents Subsequent to the Site-Wide RI

OU	Document	Date
1	<i>Final Draft Feasibility Study</i>	January 13, 1989
1	<i>Feasibility Study Addendum</i>	July 20, 1989
2	<i>Final Remedial Investigation Report</i>	December 8, 1992
3/6	<i>Revised Final Remedial Investigation Summary Report</i>	June 3, 1992
3/6	<i>Final Focused Feasibility Study Report</i>	March 19, 1993
4	<i>Remedial Investigation Report</i>	September 1993
4	<i>Final Feasibility Study</i>	February 7, 1994
5	<i>Feasibility Study</i>	August 8, 1990

Hydrogeology. In general, the groundwater beneath the Site flows north towards Sand Creek. The OU4 Remedial Investigation utilized a multi-aquifer concept as the basis for the groundwater flow model. The model defines three hydro-stratigraphic units in hydraulic communication with one another designated as Aquifer 0, Aquifer 1 and Aquifer 2. See Figures 2 and 3.

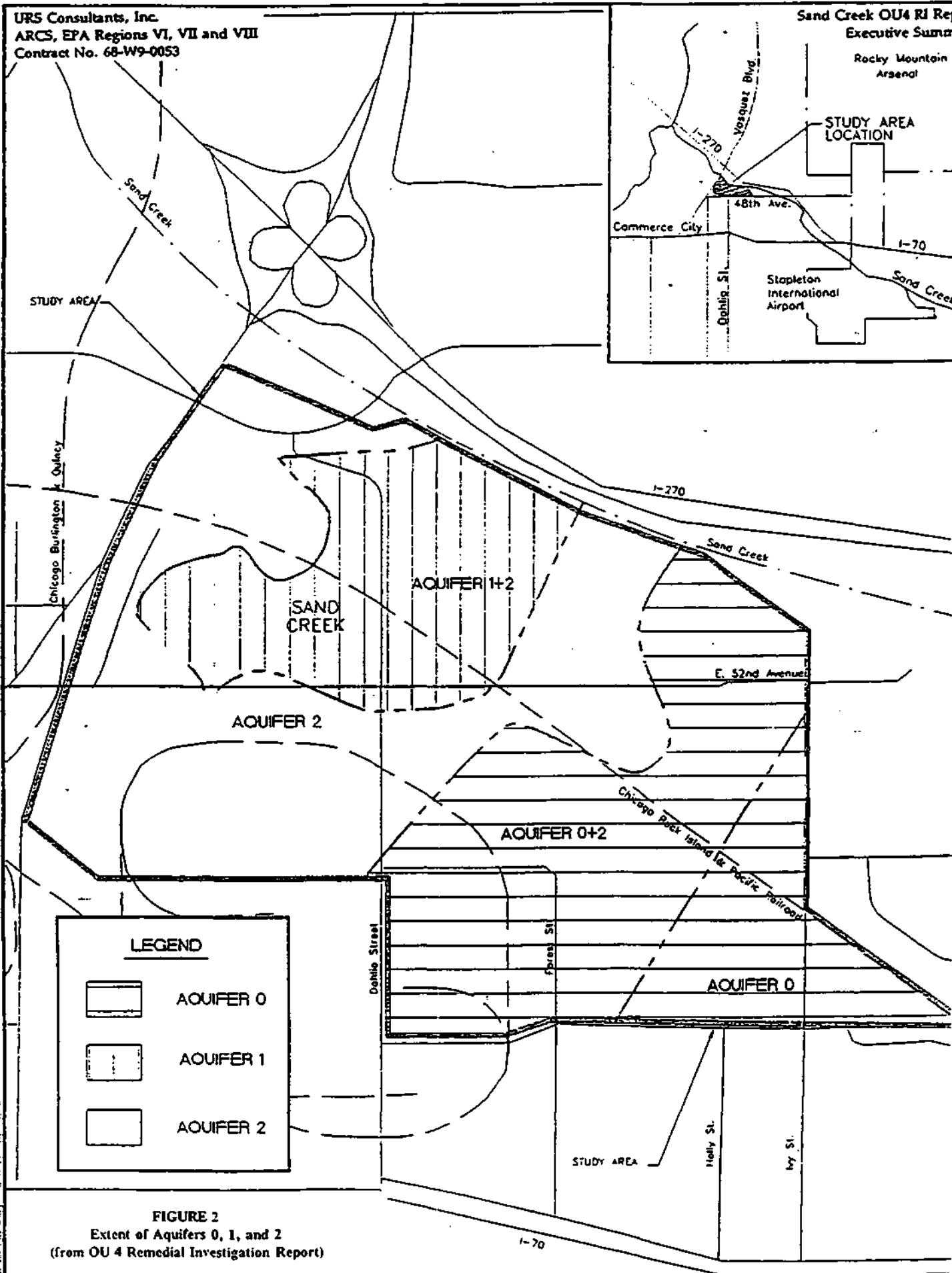
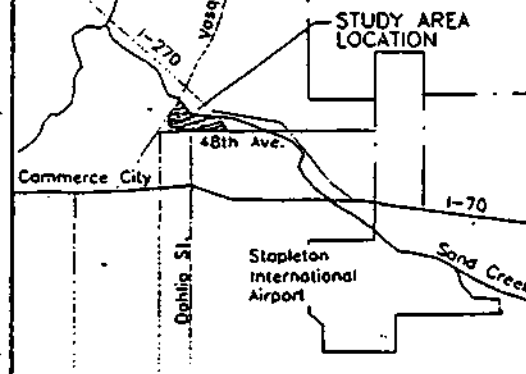
Aquifer 0 underlies the eastern portion of the study area and consists primarily of sand with interbedded, discontinuous layers of silt, clay and gravel. Aquifer 0 is separated from the other two aquifers by a discontinuous clayey strata designated Clay Layer 0. Aquifer 1 underlies the northwest portion of the Site beneath the Oriental Refinery property and portions of the COC and L.C. Corporation properties. It is composed of stratified sand and gravel. It is separated from Aquifer 2 by discontinuous Clay Layer 1. Aquifer 2 underlies most of the Site and includes a thick layer of sand and gravelly sand with interstitial clay and clay lenses. Depth to water in Aquifer 2 ranges from 4 to 68 feet below ground surface, increasing in depth from north to south across the Site.

URS Consultants, Inc.
ARCS, EPA Regions VI, VII and VIII
Contract No. 68-W9-0053

Sand Creek OU4 RI Rep
Executive Summ

Rocky Mountain
Arsenal

STUDY AREA
LOCATION



LEGEND



AQUIFER 0



AQUIFER 1



AQUIFER 2

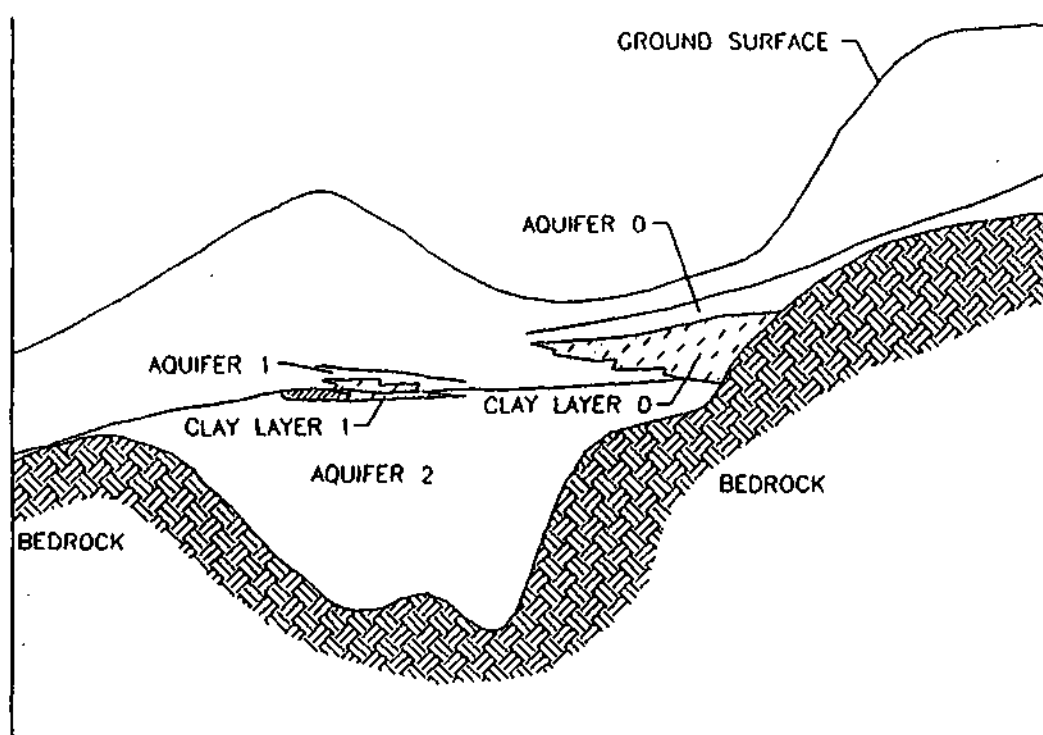
FIGURE 2
Extent of Aquifers 0, 1, and 2
(from OU 4 Remedial Investigation Report)

0 200 300 1000 1500
SCALE: 1" = 1000'

NORTHWEST

SOUTHEAST

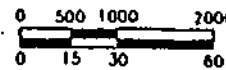
ORIENTAL REFINERY
C.O.C. 48TH & HOLLY LANDFILL CHEMICAL SALES



LEGEND

- POTENTIOMETRIC SURFACE
- ▨ BEDROCK ▨ FREE PHASE PRODUCT
- ▭ CONFINING BED

1" = 2000' HORIZ.
 1" = 60' VERT.



VERTICAL EXAGGERATION = 33X

FIGURE 3
 Conceptual Cross-Section
 (from OU 4 Remedial Investigation Report)

4.0 Remedial Actions

4.1 Remedy Selection

The primary objectives of the response actions at the Site were to protect human health and the environment and to return the site to industrial land use. These objectives consisted of the following four primary goals:

- reduce the risk to industrial workers exposed to soil through ingestion or inhalation so that they would not suffer health problems;
- ensure that a child walking or playing while trespassing onto the Site would not have health problems resulting from area soils;
- ensure that gases generated from the Landfill would not migrate off-site and cause explosions or otherwise endanger health; and,
- reduce the contamination source area for groundwater absorption so that groundwater could potentially be used.

Operable Unit 1 (OU1). The selected remedy for OU1 contained the following four components:

- demolition and disposal of contaminated buildings and tanks;
- excavation, incineration, and disposal of soils with Halogenated Organic Compound (HOC) contamination levels greater than 1000 ppm;
- backfilling of excavated areas with clean soil; and
- Soil Vapor Extraction (SVE) treatment of subsurface soils contaminated with Volatile Organic Compounds (VOCs). The subsurface soils are located at depths from five feet to the level at which groundwater is encountered, generally 12 to 20 feet.

A ROD for OU 1 was signed on September 29, 1989. Subsequently, an Explanation of Significant Differences (ESD) for OU1 was signed on September 8, 1993. Other than an estimated 1,000 cubic yards (cy) of surface soils highly contaminated with HOCs, OU1 remediation focused on treatment of subsurface soils. The OU1 ROD specified that remediation of the surface and shallow soils contaminated with less than 1,000 ppm HOCs (estimated at the time of the signing of the OU1 ROD to be 38,000 cubic yards) would be addressed by the creation of an additional operable unit, OU5.

The remedial action objectives identified in both the September 1989 ROD and September 1993 ESD consisted primarily of treatment of HOC-contaminated surface soils through excavation and incineration, and treatment of VOC-contaminated subsurface soils through SVE. Treatment of soils was undertaken to reduce the health risk to industrial workers and children exposed to soil through ingestion or inhalation and to reduce the contamination source area for groundwater absorption.

Operable Unit 2 (OU2). The acid pits on the LCC property were neutralized on three occasions in the late 1970s and early 1980s. Because of these cleanup activities, and low levels of contaminants of concern at OU2, no significant risk to human health or the environment existed in this area of the Site. Therefore, a "no further action" alternative was adopted as described in the June 30, 1993 ROD for OU2.

Operable Units 3/6 (OUs 3/6). The ROD for OUs 3 and 6 was described in a single document (June 30, 1993) since OUs 3 and 6 are both associated with the 48th and Holly Landfill. The selected remedy for OUs 3/6 contained five primary components:

- extraction and treatment of the landfill's methane gas using the Landfill Gas-Extraction System (LFGES);
- maintenance of the landfill's soil cover system and LFGES with improvements as required;
- maintenance of the area's perimeter fence and warning signs;
- implementation of additional institutional controls as necessary; and
- periodic site reviews and a monitoring program for groundwater and methane gas.

Prior to the writing of the ROD, some cleanup activities had been completed at the Site. In 1991, the landfill was fenced with the installation of the LFGES; in 1992, the landfill was improved and depressed areas filled and graded. The remedial action objectives identified in the June 1993 ROD consisted primarily of methane gas removal, institutional controls, and monitoring. These actions were undertaken to reduce the health risk to industrial workers and children exposed to soil through ingestion or dermal contact, to reduce the contamination source area for groundwater absorption, and to ensure that gases from the landfill would not migrate off-site and cause explosions or otherwise endanger health.

Operable Unit 4 (OU4). The selected remedy for OU4 contained three primary components:

- quarterly groundwater and semi-annual surface water monitoring to ensure that OU 4 contamination does not impact Sand Creek or down-gradient aquifers at some future date;
- removal of the recoverable portion of the Light Non-aqueous Phase Liquid (LNAPL) plume by Dual Vapor Extraction (DVE) and transport of the recovered LNAPL to an off-site recycling facility; and,
- institutional controls to minimize exposure to contaminated groundwater by limiting groundwater usage to non-domestic purposes and preventing any usage of highly contaminated groundwater.

The remedial action objectives identified in the April 7, 1994 ROD consisted primarily of institutional controls and monitoring. These actions were undertaken to prevent ingestion of potentially contaminated groundwater, to ensure contamination does not impact Sand Creek, and to monitor groundwater quality so that future groundwater use would be possible. A DVE system was operated on the COC property from April 1995 to April 1996. Groundwater contamination was addressed through remediation of the contamination source areas, namely the

soils in OUs 1, 3 and 5.

Operable Unit 5 (OU5). The selected remedy for OU5 contained four primary components:

- excavation and on-site treatment of contaminated surface and shallow soils (those soils located from the surface to a depth of 5 feet) using Low Temperature Thermal Treatment (LTTT) with collection of contaminants on activated carbon;
- off-site regeneration of spent activated carbon;
- backfilling of excavated areas with treated soils; and
- re-vegetation of the area to minimize erosion and dispersion of soil.

A ROD for OU5 was signed on September 28, 1990. An amendment to the ROD was signed on September 8, 1993. The target cleanup goals identified in the ROD Amendment were determined based on sampling efforts performed during November, 1992 (Phase 3 sampling) and described in a 3 volume *Sampling and Analysis Report*, March 31, 1993. A *Risk Analysis* (May 11, 1993) was prepared which calculated risk based on the 1988 *Risk Assessment* exposure scenarios and the new sampling data. The target levels defined in this *Risk Analysis* were modified after EPA and CDH (now CDPHE) decided to add an inhalation exposure pathway to the risk analysis calculations.

The initial estimate from the Site-Wide RI was that 38,000 cubic yards (cy) of surface and shallow soils would need remediation. Based on additional detailed and comprehensive sampling efforts (primarily, the Phase 3 sampling), areas initially thought to be contaminated were found not to have contamination that presented any health risk. Therefore, the estimate of soil volume which would require treatment was reduced since these areas did not need remediation. This subsequent sampling reduced the estimate from 38,000 cy to 14,000 cy, and then from 14,000 cy to 8,000 cy as stated in the OU 5 ROD and ROD Amendment.

The September 1990 ROD and December 1993 ROD Amendment focused on the treatment of surface and shallow soils contaminated with pesticides, metals and VOCs. The remedial action objectives were to reduce the health risk to industrial workers and children exposed to soil through ingestion or inhalation and to reduce the contamination source area for groundwater absorption.

A summary of the contaminants of concern and the remedies selected for the individual OUs at the Site is shown in Table 3.

Table 3: Contaminants of Concern and Selected Remedies for Sand Creek OUs

OU	Contaminant(s) of Concern	Selected Remedy
1	Pesticides above 1,000 ppm	Excavation/Incineration
	Volatile Organic Compounds	Excavation and Soil Vapor Extraction
2	None	No Further Action
3/6	Volatile Organic Compounds	Capping, Institutional Controls, and Monitoring
	Metals	Capping, Institutional Controls, and Monitoring
	Methane Gas	Landfill Gas Extraction System
4	Volatile Organic Compounds	DVE, Institutional Controls and Monitoring
	Pesticides/Herbicides	Institutional Controls and Monitoring
	Metals	Institutional Controls and Monitoring
	CPMSO ^a	Institutional Controls and Monitoring
5	Pesticides/Herbicides	Excavation and Low Temperature Thermal Treatment
	Metals	Excavation and Low Temperature Thermal Treatment

a. CPMSO = para-chlorophenylmethylsulfone

4.2 Remedy Implementation

Operable Unit 1 (OU1). An EPA approved *Final Remedial Action Completion Report (RACR)*, dated September 20, 1995 documents that the remedial action for OU1 was completed in accordance with the requirements of the September 29, 1989 ROD and September 8, 1993 ESD.

The remedial actions at OU1 consisted of three primary tasks: demolition/disposal of contaminated buildings and debris, excavation/incineration of highly contaminated soils and soil vapor extraction (SVE) treatment of subsurface soils.

Between August 1991 and April 1992, EPA removed approximately 2,500 tons of material including three buildings, four rail cars, twelve storage tanks, and other debris. Prior to disposal, waste was characterized and then disposed in appropriate permitted landfills.

The ROD and ESD both estimated that approximately 1,000 cubic yards of highly contaminated soil would need to be excavated and incinerated. Field sampling and analysis performed during the remedial design phase for OU1 determined that only about 7 cubic yards of material were contaminated above the ROD/ESD action levels. A total of 18,397 pounds of soil was excavated and sent off-site for incineration.

Between September 1993 and April 1994, EPA utilized SVE to remove over 176,000 pounds of volatile organic compound (VOC) contamination from the OU1 soils, of which approximately 3,250 pounds were targeted contaminants of concern for OU1. Catalytic oxidation (which destroyed the VOCs with 98.8% efficiency) was used as the pollution control equipment for the VOCs. The spent catalyst (2,400 pounds) from the catalytic oxidizer was disposed offsite in a permitted facility.

Operable Unit 2 (OU2). No further action was necessary for OU2. See previous section.

Operable Units 3/6 (OUs 3/6). On August 15, 1990, EPA signed a *Unilateral Administrative Order (UAO)* for a removal action for OU6 which became effective August 25, 1990 (Docket No. CERCLA-VIII-90-20). The UAO addressed risks associated with gaseous emissions from the landfill. On December 24, 1990, EPA issued an *Action Memorandum* for an Enforcement-Lead Removal Action. The Action Memorandum required the installation/operation of a gas-collection system and installation/maintenance of a security fence and a vegetative cover for the landfill.

The *Final Design Submittal* for a Landfill Gas-extraction System (LFGES) for OU6 was approved by EPA on January 28, 1991. The LFGES system involves collection of gaseous emissions (primarily methane) through underground piping, combustion of the gases in an enclosed flare system and collection/disposal of the condensate produced during the process to a Publicly Owned Treatment Works (POTW).

An EPA approved *Final Removal Action Report* for OU6 (October 31, 1991) documents that the removal action was completed in accordance with the requirements of the *Action Memorandum*. In addition, any modifications to the constructed LFGES from the *Final Design Submittal* are described in the *Final Removal Action Report*. The LFGES system began operating on May 31, 1991.

An EPA approved *Final Remedial Action Completion Report (RACR)*, dated November 22, 1994 documents that the remedial action for OUs 3/6 was completed in accordance with the requirements of the June 30, 1993 ROD. The RACR and all remedial actions were completed by the PRPs.

The first requirement of the ROD was to continue operation and maintenance of the LFGES installed by the PRPs in 1991 under an August, 1990 *Unilateral Administrative Order (UAO)* for a removal action for OU6. Since the LFGES began operation, condensate is discharged in batches after analysis is performed in accordance with waste water Discharge Permit #S0330-1. Operation of the LFGES may be modified and terminated only with the approval of EPA.

In 1991, the PRPs installed a three-strand, smooth-wire fence around the perimeter of the landfill. To deter access to the landfill, the fence holds warning signs identifying hazardous conditions. In 1992, the PRPs implemented a soil cover improvement program for the landfill. The program addressed erosion, poor drainage and lack of vegetative cover via fill placement, erosion control and reclamation. Approximately 62,000 cubic yards of fill were placed, graded and compacted for landfill cap maintenance. Gullies, trenches, and depressions were corrected. Re-vegetation and reclamation activities were performed over approximately 30 acres of the landfill.

Continued monitoring of landfill gas and groundwater was required by a *Unilateral Administrative Order (UAO)* for Remedial Design/Remedial Action (RD/RA), January 31, 1994. Landfill gas monitoring for methane began in 1991 with the startup of the LFGES. As the landfill is still generating explosive concentrations of methane, the LFGES is needed to mitigate the potential accumulation of methane in buildings, trenches, utilities and other structures which create explosive conditions that threaten public safety. Groundwater monitoring began in September, 1994.

Operable Unit 4 (OU4). An EPA approved *Remedial Action Completion Report (RACR)*, dated September 20, 1995, documents that the remedial action for OU4 was completed in accordance with the primary objectives specified in the 1994 ROD.

EPA conducted quarterly groundwater and semi-annual surface water monitoring during the period of September 1994 to September 1995 for OU4. Because the source areas for groundwater contamination were remediated under OUs 1, 3 and 5, monitoring was specified as a primary objective for OU4 in the 1994 ROD.

Another goal identified in the April 1994 ROD was to recover, to the extent possible, a portion of a light non-aqueous phase liquid (LNAPL) plume located in the northwest portion of the Site. The removal was to be accomplished by utilizing Dual Vapor Extraction (DVE). The equipment used for DVE was fundamentally the same as that used for the SVE treatment of OU1 soils. EPA operated the DVE system from October 1994 to April 1995. During this time, only 1,820 gallons of LNAPL were recovered, far below the estimated total volume of the LNAPL. The data showed that even with an active "pump and treat" system, the LNAPL contamination is fairly immobile. The design and results of this system can be utilized by EPA in the future if it is determined that the plume is migrating off-site and containment measures are necessary.

A second LNAPL plume, comprised of petroleum products, was found in the southwestern part of the Site in 1991. Because it is petroleum based, the plume is not subject to remedial actions under CERCLA.

Operable Unit 5 (OU5). An EPA approved *Remedial Action Completion Report (RACR)*, dated October 28, 1994, documents that the remedial action for OU5 was completed in accordance with the requirements of the September 8, 1993 ROD amendment.

In August and September of 1993, approximately 3,300 cubic yards of soil were excavated during the OU1 RA. This was done to ensure that all soil contaminated with pesticides and arsenic above the Site's action levels had been removed from a portion of OU 1 prior to implementation of Soil Vapor Extraction (SVE). An additional 4,954 cubic yards of soil was excavated during June and July 1994, for a total excavated volume of 8,254 cubic yards.

Between June 28 and July 29, 1994, the excavated soil was remediated using Low Temperature Thermal Treatment (LTTT). After backfilling with the treated soil, a cover crop was planted to restore the Site and to help prevent erosion.

During remedial activities at the Site, additional wastes consisting of buried drums and debris were discovered in the area of OU5. As these wastes posed a high risk, EPA initiated a time-critical removal action to respond to the situation. During the removal action, additional wastes were encountered and disposed.

The removal response activity was carried out from October, 1994 to July, 1995. This activity consisted of the removal and off-site disposal of the following: 40 cy of crushed drums, 2000 cubic yards of oil contaminated soils, 200 cy of building and general debris, 230 cubic yards of asbestos and oil contaminated soils and 40 cy of RCRA listed waste. Seven compressed gas cylinders were found of which six were vented on-site after appropriate treatment and one was shipped off-site for disposal. An additional 600 gallons of #6 waste-fuel oil was also removed and sent offsite to a recycling facility. This area of the site was re-graded and re-seeded following the completion of all removal and disposal activities. A *Pollution Report*, dated September 30, 1995, documents all removal activities performed.

4.3 System Operations

The review of system operations includes OUs 3/6 and OU 4, the only OUs requiring O&M or monitoring. OUs 1, 2 and 5 are complete and protective of human health and the environment.

OUs 3/6 - Landfill. O&M tasks related to the landfill consist of:

- O&M of the LFGES;
- Maintenance of the soil cover system;
- Maintenance of the perimeter fence and signs;
- Implementation of an environmental monitoring program (landfill gas and groundwater);
- Conducting periodic site reviews.

O&M of the various components of the LFGES is conducted in accordance with the O&M

Manual and appropriate manufacturer's operations and maintenance manuals. The LFGES is operated on a relatively constant basis except for periodic shutdowns to facilitate routine maintenance activities.

The soil cover system, perimeter fence and signs are inspected during each extraction well monitoring event for the purpose of evaluating the general integrity and condition. The inspection includes, but is not limited to, an evaluation of the condition of the vegetative cover, effects of erosion and burrowing animals and subsidence. Reseeding, weed-cutting, fence repair and sign repair are conducted on an as-needed basis.

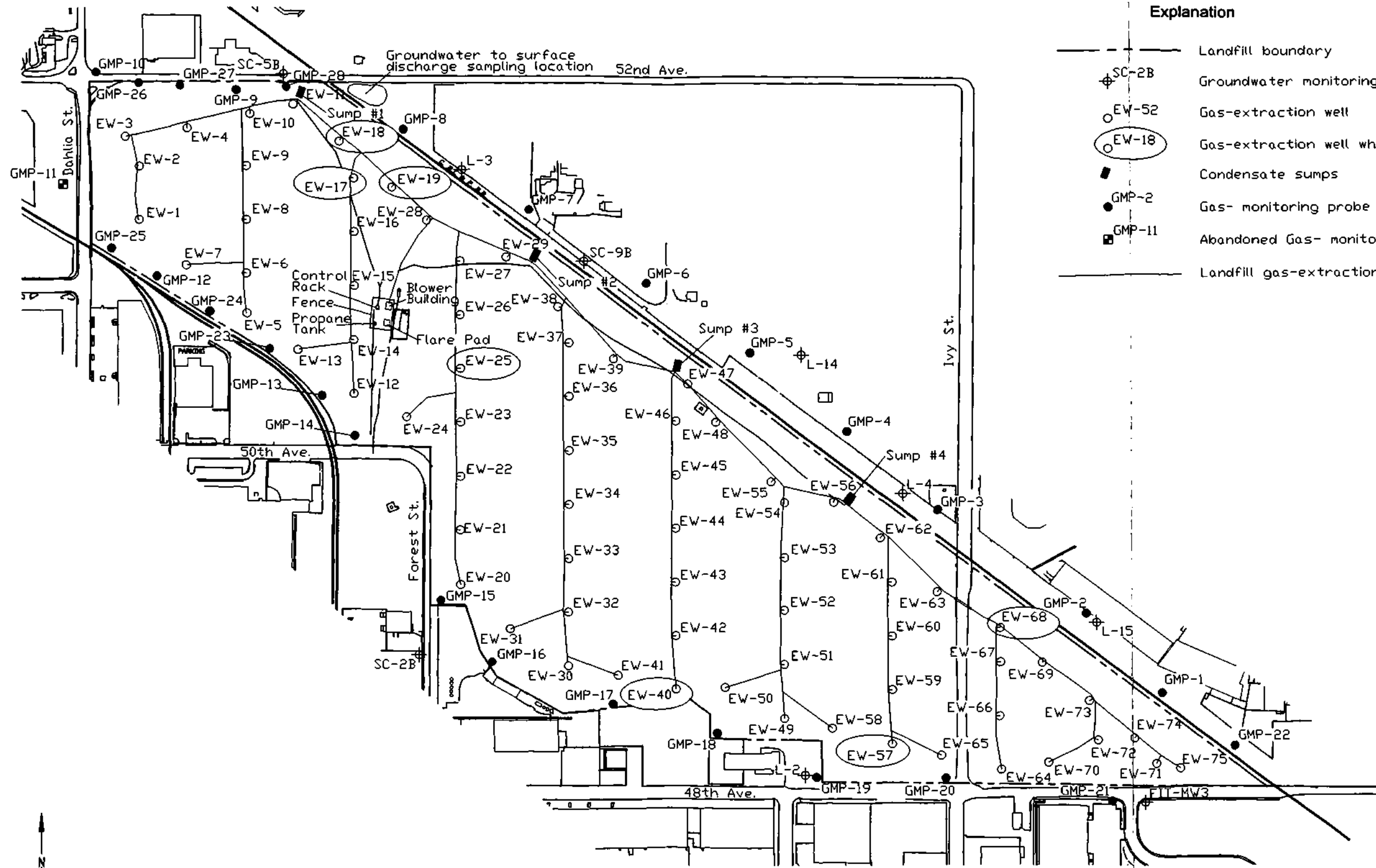
Landfill gas monitoring is conducted at least monthly at 28 gas monitoring probes, 75 extraction wells and blower building inlet and outlet ports. Groundwater monitoring in the immediate area of the landfill is conducted semi-annually to assess the potential impact of the landfill on the quality of groundwater down-gradient of the landfill. Activities include collecting water-level measurements, groundwater sampling and well inspection. See Figures 4 and 5.

OU4 - Site-Wide Groundwater Monitoring. In cooperation with EPA, CDPHE conducts ground and surface water monitoring at the Site on a semi-annual basis. The scope of work for data collection and analysis is outlined in the *Sampling and Analysis Plan for Operation and Maintenance* (CDPHE, November 1996). The overall objectives of the site-wide sampling are to ensure contaminants are not migrating offsite or contaminating surface water at concentration levels above remediation goals and to monitor contaminated wells for expected decreases due to natural attenuation. See Figure 5.

4.4 Institutional Controls

As previously stated, three properties within the Site totaling approximately 12 acres were recently sold to a private entity. The United States entered into a Prospective Purchaser Agreement with the purchaser of the properties whereby the purchaser granted the State of Colorado (via CDPHE) an Environmental Covenant (Covenant) on September 30, 2004 in accordance with §25-15-321 of the Colorado Hazardous Waste Act, §25-15-101, et seq., Colorado Revised Statutes. The Covenant was recorded with the Adams County Clerk and Recorder's Office on November 19, 2004. The purpose of the Covenant is to ensure protection of human health and the environment by implementing institutional controls (ICs) pursuant to the RODs for OUs 1, 4 and 5. The ICs mainly deal with restrictions to land and groundwater use. It also permanently ensures that the ICs will "run with the land" and be inserted in any future instrument of conveyance into perpetuity.

The 1993 ROD for OUs 3/6 (i.e. landfill) included the requirement for the implementation and enforcement of ICs. The purposes of the ICs were as follows: 1) protect the integrity of the landfill cover system to prevent dermal/direct contact with the landfill contents, 2) prevent the use of groundwater, and 3) protect the integrity of the LFGES. Implementation of the ROD (and the ICs) was addressed in the 1994 UAO for RD/RA. There is currently no concern with the



Explanation

- Landfill boundary
- SC-2B Groundwater monitoring well
- EW-52 Gas-extraction well
- EW-18 Gas-extraction well which is shut off
- Condensate sumps
- GMP-2 Gas- monitoring probe
- GMP-11 Abandoned Gas- monitoring probe
- Landfill gas-extraction system piping



Landfill Gas-extraction System and
Monitoring Well Network
48th and Holly Landfill
Commerce City, Colorado

FIGURE

4

DRAWN
LDZ

JOB NUMBER
4663030009

APPROVED
KEG

DATE
12/94

REVISED DATE
11/04



Colorado Department
of Public Health
and Environment

Hazardous Materials and
Waste Management Division

Legend

- Surfacewater
- ⊕ OU's 3&6 Well Locations
- ▲ OU4 Sampling Locations
- Site Boundary

Sand Creek
Industrial Site

Figure 5



implementation and enforcement of the ICs for OUs 3/6 because the surface area of the landfill is owned and/or controlled by the PRPs and the United States. However, there are no such assurances with the transfer of land in the future.

The landfill is approximately 94 acres and made up of three parcels. The United States owns a 56-acre parcel within the landfill and plans to sell it in the near future. EPA and CDPHE are currently working with the General Services Administration (the conveyor of land for the United States) to make sure that an environmental covenant is granted by the purchaser during the sale of the property. The necessary environmental covenants will be permanently placed to run with the land as with the properties recently sold. EPA and CDPHE will also need to work with the owners of the other two parcels to request similar assurances.

The groundwater within the boundaries of the Site is contaminated. Except for the ICs on the properties recently sold, ICs are not in-place to restrict groundwater-use within the boundaries of the Site. In addition, there are no known restrictions on constructing water wells within Site boundaries. However, it should be noted that all residents and businesses in the area are connected to the municipal water supply.

4.5 Progress Since the Last Five-Year Review

The last Five-Year Review Report was signed on September 27, 2000. The results of the review indicated that the remedial actions implemented at the Site were expected to be protective of human health and the environment. The following four issues that did not immediately impact protectiveness were identified:

- Low points in sub-header lines of the LFGES caused by differential landfill settlement are restricting drainage from the sub-headers to the condensate sumps, thereby, creating intermittent gas flow blockage in the system;
- Perimeter fence surrounding the landfill was cut in a couple of places near the corner of 50th and Forest;
- Security chain and lock on the landfill gate, located at the 50th and Forest entrance, were cut on three different occasions; and,
- One well northeast of and within the Site contained contaminant concentrations above remediation goals.

The PRPs addressed the first three issues by the end of December 2000. With respect to the fourth issue, CDPHE and EPA are still evaluating sampling information to determine the potential impact of the groundwater remedy implemented at the adjacent Chemical Sales Superfund Site to the contaminated well. Contaminant levels in Well SC-16B are now below Remediation Goals. It should be noted that the area is served by a municipal water supply.

5.0 Five-Year Review Process

The five-year review was led by Armando Saenz, Remedial Project Manager for the Site. The following team members assisted in the review:

- Mary Scott, CDPHE Project Manager
- Rob Henneke, EPA Community Involvement Coordinator
- Richard Sisk, EPA Attorney

The five-year review consisted of the following activities: a review of relevant documents; meetings with representatives of the LFGES operational contractor and CDPHE; review of ARARS and O&M data; and, a site inspection. A notice that the five-year review was in progress was placed in the local newspapers on August 8, 2005. A notice of completion of the five-year report will be placed in the local newspapers.

6.0 Five Year Review Findings

6.1 Interviews

The following individuals were contacted in person or by telephone by Armando Saenz as part of the five-year review:

- Bill Brown, Environmental Specialist, KRW Consulting, Inc. (8/16/05)
- Mary Scott, Project Manager, CDPHE (8/16/05)

Bill Brown. Mr. Brown stated that he is not aware of any major issues related to the landfill gas extraction system, soil cover system and wire fence surrounding the Site. The most pressing problems relate to differential landfill settlement and security.

Low points in sub-header lines caused by differential landfill settlement are restricting drainage from the sub-headers to the condensate sumps, thereby creating intermittent gas flow blockage in the system (not significant enough to cause automatic shutdown). Adjustments have been made, but he stated that the problem will be continuously addressed.

Mary Scott. Ms. Scott stated that she believed that the O&M and monitoring program for the Site were progressing as planned and that there were no major issues at this time. However, she did mention potential problems with wells RW-1 and RW-5. The wells have recently shown increasing contaminant trends that should be further investigated.

6.2 Site Inspection

The Site was inspected on August 16, 2005. The landfill soil cover, LFGES and fence surrounding the LFGES were inspected. The landfill cover was found to be in good condition.

No significant effects of burrowing animals and erosion were observed. The soil cover was thorough and abundant. The LFGES appeared to be operating and functioning properly. No sign of damage was noted for the monitoring probes, extraction wells and building area. No sign of damage was noted for the groundwater monitoring wells.

6.3 ARARs Review

As part of the five-year review, Applicable and Relevant and Appropriate Requirements (ARARs) were reviewed. The primary purpose of this review was to determine if any newly promulgated or modified requirements of federal and state environmental laws have significantly changed the protectiveness of the remedies implemented at the Site. The ARARs reviewed were those included in the Site's decision documents.

Overall, the review does not indicate any substantive changes to regulations that would affect the remedy nor its protectiveness. EPA and CDPHE will continue to monitor this Site and any significant changes in ARARs will be reported in the next five-year review.

6.4 Data Review for OUs3/6 (Landfill)

A review of records and monitoring reports through December 2004 indicates OUs 3/6 are being operated and maintained as required by the 1993 ROD and the 1994 UAO. The LFGES is being operated on a relatively constant basis except for periodic shutdowns to facilitate routine maintenance activities. Landfill gas monitoring is conducted at least monthly for 28 gas monitoring probes (GMPs), 75 extraction wells and blower building inlet and outlet sample ports. Groundwater monitoring in the immediate area of the landfill is conducted semiannually for 9 groundwater monitoring wells surrounding the landfill. The following is an analysis of the most current data:

LFGES. The remedial action objective for the LFGES is to achieve maximum methane concentrations below 5% by volume, the lower explosive limit of methane. The most current data (Appendix A) for a six month period shows that methane concentrations were not detected in any of the gas monitoring probes surrounding the landfill, except for GMP 9 and GMP 16. However, the average gas concentrations for the period (.32 % by volume in air for GMP 9 and .05% for GMP 16) were well below the standard. These results show that the LFGES is operating effectively and controlling off-site migration of methane. With the landfill still generating explosive concentrations of methane, the PRPs will continue to operate the LFGES. Also see Figure 4.

Landfill Groundwater Monitoring. The objective of the groundwater monitoring program is to assess on a continuing basis the potential impact of the landfill on the quality of groundwater down-gradient of the landfill. The groundwater underneath the Site generally moves north to Sand Creek. Analytical data collected during the last landfill groundwater sampling event were compared with historical data (Appendix B). For the nine wells sampled, current analytical results were compared with the historical data to assess whether a change in conditions (i.e. a

significant increase or decrease in concentrations) has occurred at the wells. The analytical results for the last sampling event were compared to the historical maximum detected value for each well. Also see Figures 2 and 4. The evaluation indicates the following:

- At up-gradient Wells FIT-MW 3 and L-2 in Aquifer 0 and Well SC-2B in Aquifer 2, analyte concentrations were not detected or were less than the historical maximum. As a result, it is reasonable to assume that no significant change in conditions has occurred at these wells that adversely affects groundwater quality.
- At down-gradient Wells L-4, L-14 and L-15 in Aquifer 0, and SC-5B, SC-9B and L-3 in Aquifer 2, analyte concentrations were not detected or were equal to or less than the historical maximum. As a result, it is reasonable to assume that no significant change in conditions has occurred at these wells that adversely affects groundwater quality.
- At the groundwater discharge to surface location, analyte concentrations were not detected or were less than the historical maximum. As a result, it is reasonable to assume that no significant change in conditions has occurred at this location that adversely affects groundwater quality.

Because results of groundwater and surface water samples collected from Aquifer 0 and Aquifer 2 have not shown significant variability over time, it is reasonable to assume that no change in conditions has occurred in these areas that adversely affects groundwater quality in these areas.

6.5 Data Review for OU4 (Site-Wide Groundwater Monitoring)

CDPHE conducts groundwater and surface water monitoring at the Site on a semi-annual basis. Groundwater samples are collected from fourteen groundwater monitoring wells and two surface water samples within the Site. The overall objectives of the site-wide sampling are to ensure contaminants are not migrating offsite or contaminating surface water at concentration levels above Remediation Goals (RGs) and to monitor contaminated wells for expected decreases due to natural attenuation. All of the monitoring wells are in Aquifer 2, except SC-7A which is in Aquifer 1. A review of records and monitoring reports through April 2005 indicates that OU4 is being monitored as required by the 1996 Sampling and Analysis Plan. See Figure 5 and Appendix C.

Well SC-12A is located in the southwest portion of the Site, up-gradient from known sources of contamination. This well was sampled to determine background levels of contaminants in the groundwater. Trichloroethene (TCE) was measured at below the analytical reporting limit.

Four wells located in the area subject to remedial actions under OU 1 and OU 5 were sampled: SC-6A, SC-7A, URS-1, and URS-21. As expected, these wells contained the most significant and elevated concentrations of contamination. Fuel related BTEX (benzene, toluene, ethylbenzene, xylene) compounds were detected. More than likely, they originated from the release of refined petroleum products during the Oriental Refinery fire of 1965. Chlorinated

organics, probably released during Colorado Organic Chemical pesticide production, were also measured in these wells.

Four wells, down-gradient of the source area for OUs 1/5, are monitored to ensure contamination is not migrating off-site at levels above the RGs. These wells are SC-17A, SC-3R, RW-1 and RW-2. The general lack of contamination in these wells indicates the groundwater contamination beneath the OU 1/5 area has not migrated to the north or northeast, the predominant directions of groundwater movement. However, it should be noted that the tetrachloroethene (PCE) data for RW-1 suggest a gently increasing trend. The increasing levels may be due to the remaining LNAPL plume in the area that was remediated to the extent possible.

Four of the groundwater wells monitored, SC-16B, RW-3, RW-4 and SC-21B are located in the northeast portion of the Site and should not be affected by the OU 1/5 source area due to groundwater flow patterns. For Well SC-16B, 1,1-dichloroethene, PCE, TCE and cis-1,2-dichloroethene were below RGs.

RW-5 is located north of the Site, across Sand Creek and Interstate 270. Concentration levels for PCE and TCE have remained relatively steady since the completion of remedial activities. However, recent data suggests increasing trends for 1,1-dichloroethene and cis-1,2-dichloroethene (although current levels are well below the RGs).

Sand Creek was sampled upstream and downstream of the segment expected to be impacted, if contamination from the Site was to migrate to the creek. Contaminants were not detected at the two locations.

Sampling information suggests that groundwater contamination underlying the Site has remained within the OU 4 area. Surface water sampling suggests Sand Creek has not been impacted by contaminants migrating from the Site. Sampled wells located near the northern perimeter of the Site and down-gradient of the known sources of contamination, within the Site, contained either no contamination or levels of contamination well below the RGs. However, given the elevated contaminant levels in SC-6A and increasing trends in RW-1 and RW-5, further investigation of the north-northwestern area of the Site may be necessary.

6.6 Data Review for Indoor Air Sampling

Indoor air sampling has never been conducted at the Site mainly because contaminant levels are relatively low and only a few residents live in the area. However, because of the nature and extent of the VOC-contaminated groundwater, EPA and CDPHE should conduct an investigation of the indoor air pathway as a precautionary measure in the limited residential area of the Site. The purpose of the investigation would be to determine whether there is an unacceptable risk to human health from chemical vapors. The investigation should be conducted in accordance with the *OSWER Draft Guidance for Evaluating the Vapor Intrusion to Indoor Air Pathway from Groundwater and Soils (Subsurface Vapor Intrusion Guidance)*, November 2002.

7.0 Assessment

The following conclusions support the determination that the remedy at the Sand Creek Industrial Superfund Site is expected to be protective of human health and the environment upon completion.

Question A: Is the remedy functioning as intended by the decision documents?

- **HASP/Contingency Plan:** Both the HASP and the Contingency Plan (related to the LFGES) are in place, sufficient to control risks and properly implemented.
- **Implementation of Institutional Controls and Other Measures:** Access controls are in place at the Site including a fence and a warning sign. The fence is in good condition. There are no current or planned changes in land use for the Site.

ICs are currently in-place for the properties recently sold. However, outside of these properties, ICs are not in-place to restrict the use of contaminated groundwater and construction of water wells within the boundaries of the Site. In addition, there are no long-term assurances that the ICs at the landfill will remain in-place with the transfer of land in the future. EPA and CDPHE will need to work with the property owners of the landfill and local governments to secure the necessary permanent ICs for the Site.

- **Remedial Action Performance:** The landfill cover system has been effective in isolating waste and contaminants. Small depressions (probably from differential landfill settlement) noted on the cover do not affect the performance or integrity of the cover system. The LFGES is operating as required and on a relatively constant basis, except for periodic shutdowns to facilitate routine maintenance activities. All monitoring programs are being conducted in accordance with all appropriate plans, manuals and reports.
- **System Operations/O&M:** System operations procedures are consistent with requirements. Difficulties that have occurred with the landfill cover system and LFGES have been handled properly to date.
- **Cost of System Operations/O&M:** No operation or maintenance costs were provided.
- **Opportunities for Optimization:** Given the adequate performance of the LFGES, this five-year review does not identify a need for optimization at this time.
- **Early Indicators of Potential Remedy Failure:** No early indicators of potential remedy failure were noted during the review.

Question B: Are the assumptions made at the time of the remedy selection still valid?

- ***Changes in Standards:*** No newly promulgated or modified ARARs that would change the protectiveness of the remedies implemented at the Site were identified.
- ***Changes in Exposure Pathways:*** No changes in the site conditions that affect exposure pathways were identified as part of this five-year review. First, there are no current or planned changes in land use. Second, no new contaminants, sources, or routes of exposure were identified as part of this five-year review. Finally, there is no indication that hydrologic/hydro-geologic conditions are not adequately characterized. Present contaminant levels in groundwater are consistent with expectations at the time of the ROD and sampling data suggests that groundwater contamination underlying the Site has remained within the Site.

As a precautionary measure, EPA and CDPHE will conduct an indoor air investigation in the limited residential area of the Site. The purpose of the investigation would be to determine whether there is an unacceptable risk to human health from chemical vapors.

- ***Changes in Toxicity and Other Contaminant Characteristics:*** Changes in toxicity and other factors for contaminants of concern since the time of the ROD do not call into question the protectiveness of the remedy.

EPA has reevaluated the human health impacts of the chemical 1,1 DCE. It reviewed all new information on this chemical since it was last evaluated in 1987. New data suggest that cancer response is not likely to occur in people. Therefore, EPA revised its allowable level for 1,1 DCE in residential indoor air. The net effect of the reevaluation would be to increase the action level for a particular site.

- ***Changes in Risk Assessment Methodologies:*** Changes in risk assessment methodologies since the time of the ROD do not call into question the protectiveness of the remedy.

Question C: Has any other information come to light that could call into question the protectiveness of the remedy?

No additional information has been identified that would call into question the protectiveness of the remedy.

8.0 Issues

The following issues were identified during the five-year review. They do not immediately impact the protectiveness of the remedies implemented at the Site.

- 1) There is currently no concern with the implementation/enforcement of the ICs for OUs

3/6 because the surface area of the landfill is owned and/or controlled by the PRPs and the United States. However, there are no such assurances with the transfer of land in the future.

- 2) Outside of the landfill and the properties recently sold, ICs are not in-place to restrict use of contaminated groundwater and construction of water wells within Site boundaries.
- 3) Indoor air sampling has never been conducted at the Site mainly because contaminant levels are relatively low and only a few residents live in the area.
- 4) Low points in sub-header lines of the LFGES caused by differential landfill settlement are restricting drainage from the sub-headers to the condensate sumps creating intermittent gas flow blockages in the system.
- 5) Sampling data from two wells (RW-1 and RW-5) in the north-northwestern area of the Site suggest an increasing trend in contaminant levels in the area.

9.0 Recommendations and Follow-up Actions

The corresponding recommendations/follow-up actions are as follows:

- 1) The landfill is approximately 94 acres and made up of three parcels. The United States owns a 56-acre parcel within the landfill and plans to sell it in the near future. EPA and CDPHE are currently working with the General Services Administration (the conveyor of land for the United States) to make sure that the necessary environmental covenants will be permanently placed and run with the land as with the properties recently sold. EPA and CDPHE will also need to work with the owners of the other two parcels to secure similar assurances. Completion of this follow-up action is planned for the 4th Quarter of FY 2008.
- 2) EPA and CDPHE will need to work with the local governments to secure the necessary permanent ICs through the establishment of an overlay district or ordinances that restrict groundwater use and the construction of water wells within the boundaries of the Site. Completion of this follow-up action is planned for the 4th Quarter of FY 2008.
- 3) As a precautionary measure, EPA and CDPHE should conduct an investigation of the indoor air pathway in the limited residential area of the Site. The purpose of the investigation would be to determine whether there is an unacceptable risk to human health from chemical vapors. Completion of this follow-up action is planned for the 4th Quarter of FY 2006.
- 4) The PRPs will need to continuously locate partial blockages and make the necessary adjustments/repairs. This follow-up action is ongoing.

- 5) CDPHE will need to further investigate the north-northwestern area of the Site to determine the cause for the increasing contaminant trends in the area. Additional wells may be necessary for the investigation. Completion of this follow-up action is planned for the 4th Quarter of FY 2007.

10.0 Protectiveness Statements

OUs 1, 2 and 5 are complete and protective of human health and the environment. OUs 3/6 and 4 are expected to be protective of human health and the environment. The landfill cover and landfill gas extraction systems are operating and functioning as designed. Groundwater monitoring data suggests that the contaminated groundwater underlying the Site has remained within site boundaries. The area is also served by a municipal water supply. A few deficiencies that do not immediately impact the protectiveness of the remedies were identified as summarized in Section 8.0.

11.0 Next Review

This is a statutory site that requires ongoing five-year reviews. The next review will be conducted within five years of the completion of this Five-Year Review Report. The completion date is the date shown on the signature page of this report.

APPENDICES

Appendix A - Gas Monitoring Probe Data

Appendix B - Landfill Groundwater Monitoring Data

Appendix C - Site-wide Groundwater Monitoring Data

Appendix D - List of Documents Reviewed

APPENDIX A

Gas Monitoring Probe Data

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 1**

Date	Time	% Oxygen	% Methane	Well Pressure (in. WC)	Comments
5/7/2004	12:10	19.90	0.00	0.00	
5/12/2004	10:21	20.20	0.00	0.00	
5/21/2004	14:51	18.30	0.00	0.00	
5/27/2004	13:52	18.40	0.00	0.00	
6/2/2004	14:00	18.30	0.00	0.00	
6/11/2004	14:33	18.60	0.00	0.00	
6/17/2004	10:55	19.60	0.00	0.00	
6/25/2004	9:55	19.20	0.00	0.00	
7/1/2004	13:50	18.20	0.00	0.00	
7/7/2004	10:00	18.40	0.00	0.00	
7/16/2004	12:30	18.50	0.00	0.00	
7/22/2004	10:35	18.80	0.00	0.00	
7/30/2004	12:05	18.00	0.00	0.00	
8/5/2004	9:55	18.50	0.00	0.00	
8/12/2004	11:32	18.10	0.00	0.00	
8/20/2004	10:47	18.10	0.00	0.00	
8/27/2004	8:48	18.40	0.00	0.00	
8/31/2004	11:31	17.10	0.00	0.00	
9/7/2004	12:46	17.20	0.00	0.00	
9/17/2004	13:04	16.70	0.00	0.00	
9/24/2004	12:17	17.40	0.00	0.00	
10/1/2004	11:30	17.10	0.00	0.00	
10/8/2004	13:18	17.70	0.00	0.00	
10/15/2004	11:40	17.80	0.00	0.00	
10/22/2004	10:24	18.10	0.00	0.00	
10/29/2004	10:30	17.90	0.00	0.00	
May Avg.		19.20	0.00	0.00	
Jun Avg.		18.93	0.00	0.00	
Jul Avg.		18.38	0.00	0.00	
Aug Avg.		18.28	0.00	0.00	
Sep Avg.		17.10	0.00	0.00	
Oct Avg.		17.72	0.00	0.00	
Period Average:		18.25	0.00	0.00	
Notes:					

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 2**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 3**

Date	Time	% Oxygen	% Methane	Well Pressure (in. WC)	Comments
5/7/2004	12:02	19.80	0.00	0.00	
5/12/2004	10:14	20.00	0.00	0.00	
5/21/2004	14:45	16.80	0.00	0.00	
5/27/2004	13:46	14.60	0.00	0.00	
6/2/2004	13:50	15.20	0.00	0.00	
6/11/2004	14:38	16.10	0.00	0.00	
6/17/2004	10:45	17.40	0.00	0.00	
6/25/2004	9:45	16.90	0.00	0.00	
7/1/2004	13:40	14.50	0.00	0.00	
7/7/2004	9:50	14.60	0.00	0.00	
7/16/2004	10:35	17.30	0.00	0.00	
7/22/2004	10:25	15.80	0.00	0.00	
7/30/2004	11:55	13.50	0.00	0.00	
8/5/2004	9:45	15.40	0.00	0.01	
8/12/2004	11:21	14.70	0.00	0.00	
8/20/2004	10:35	14.00	0.00	0.01	
8/27/2004	8:36	15.20	0.00	0.00	
8/31/2004	11:19	12.50	0.00	0.00	
9/7/2004	12:35	10.90	0.00	0.01	
9/17/2004	12:52	11.30	0.00	0.00	
9/24/2004	10:07	13.50	0.00	0.00	
10/1/2004	11:17	14.40	0.00	0.00	
10/8/2004	13:09	14.90	0.00	0.00	
10/15/2004	11:28	12.80	0.00	0.00	
10/22/2004	10:15	14.00	0.00	0.00	
10/29/2004	10:17	12.60	0.00	0.00	
May Avg.		17.80	0.00	0.00	
Jun Avg.		16.40	0.00	0.00	
Jul Avg.		15.14	0.00	0.00	
Aug Avg.		14.83	0.00	0.01	
Sep Avg.		11.90	0.00	0.00	
Oct Avg.		13.74	0.00	0.00	
Period Average:		14.95	0.00	0.00	
Notes:					

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 4**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 5**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 6**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 7**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 8**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 9**

[illegible]

Sand Creek Landfill Gas Extraction Monitoring

Gas Monitoring Probe 10

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 12**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 13**

Date	Time	% Oxygen	% Methane	Well Pressure (in. WC)	Comments
5/7/2004	11:05	18.40	0.00	0.00	
5/12/2004	9:15	19.20	0.00	0.00	
5/21/2004	13:48	20.40	0.00	0.00	
5/27/2004	12:48	20.20	0.00	0.00	
6/2/2004	12:50	20.50	0.00	0.00	
6/11/2004	15:25	20.10	0.00	0.00	
6/17/2004	8:35	21.30	0.00	0.00	
6/24/2004	14:45	19.40	0.00	0.00	
7/1/2004	11:05	20.20	0.00	0.00	
7/7/2004	8:35	20.60	0.00	0.00	
7/16/2004	9:20	21.10	0.00	0.00	
7/22/2004	9:05	20.90	0.00	0.00	
7/30/2004	10:35	19.80	0.00	0.00	
8/5/2004	8:35	20.50	0.00	0.00	
8/12/2004	9:37	20.60	0.00	0.00	
8/20/2004	8:06	20.90	0.00	0.00	
8/27/2004	7:06	20.40	0.00	0.00	
8/31/2004	9:51	20.80	0.00	0.00	
9/7/2004	11:06	19.30	0.00	0.00	
9/17/2004	9:26	20.60	0.00	0.00	
9/24/2004	9:40	20.50	0.00	0.00	
10/1/2004	9:51	20.10	0.00	0.00	
10/8/2004	11:51	20.40	0.00	0.00	
10/15/2004	10:06	20.70	0.00	0.00	
10/22/2004	8:50	20.80	0.00	0.00	
10/29/2004	8:51	20.50	0.00	0.00	
May Avg.		19.55	0.00	0.00	
Jun Avg.		20.33	0.00	0.00	
Jul Avg.		20.52	0.00	0.00	
Aug Avg.		20.60	0.00	0.00	
Sep Avg.		20.13	0.00	0.00	
Oct Avg.		20.50	0.00	0.00	
Period Average:		20.32	0.00	0.00	
Notes:					

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 14**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 15**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 16**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 17**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 18**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 19**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 20**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 21**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 22**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 23**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 24**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 25**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 26**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 27**

[illegible]

**Sand Creek Landfill Gas Extraction Monitoring
Gas Monitoring Probe 28**

[illegible]

APPENDIX B

Landfill Groundwater Monitoring Data

**Table B1: Summary of Water-Level Elevation Data,
48th and Holly Landfill**

Well	Date																				
	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
L-2	5201.11	5201.01	5201.15	5200.9	5200.89	5200.59	5200.65	5200.77	5200.95	5200.81	5200.94	5200.81	5201.05	5201.19	5201.40	5201.13	5200.97	5200.79	5200.99	5200.49	5200.30
L-3	5161.65	5161.4	5162.12	5161.65	5162.27	5162.17	5163.64	5163.16	5164.09	5163.16	5164.38	5163.41	5164.09	5163.69	5164.11	5163.28	5163.38	5163.25	5163.42	5162.46	5163.05
L-4	5187.07	5186.74	5187.25	5187.07	5187.22	5186.7	5187.14	5186.97	5187.34	5187.04	5187.48	5186.99	5187.25	5188.42	5188.75	5188.19	5188.16	5188.24	5188.55	5187.67	5187.89
L-14	5185.91	5185.77	5186.2	5186.06	5186.23	5185.84	5186.25	5186.14	5186.36	5186.12	5186.48	5186.18	5186.49	5186.42	5186.64	5186.18	5186.26	5186.47	5186.50	5185.53	5186.06
L-15	5190.16	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na	na
SC-2B	5167.55	5167.5	5167.81	5167.66	5167.82	5167.68	5168.6	5168.45	5169.10	5168.38	5169.23	5168.76	5168.91	5168.76	5169.21	5168.60	5168.39	5168.61	5168.44	5167.86	5168.08
SC-5B	5158.76	5158.56	5159.21	5158.79	5159.37	5159.23	5160.62	5160.22	5161.02	5160.18	5161.28	5160.43	5161.00	5160.70	5161.09	5160.29	5160.37	5160.46	5160.60	5159.50	5160.05
SC-9B	5159.33	5159	5159.83	5159.29	5159.98	5159.84	5161.36	5160.86	5161.78	5160.81	5162.11	5160.07	5161.81	5161.39	5161.85	5160.92	5161.12	5161.16	5161.34	5160.05	5160.78
FIT-MW3	5203.57	5203.15	na	5202.97	5202.63	5202.32	5202.53	5202.45	5202.86	5202.55	5202.95	5202.73	5202.79	5202.99	5203.45	5203.14	5202.88	5202.62	5202.97	5201.77	5201.97

na Not applicable - water level below top of dedicated pump.

Note: Water elevations are in units of feet above mean sea level

**Table B2: Analytical Data From the Twenty-First Semiannual Groundwater Monitoring Event,
48th and Holly Landfill**

Analyte	Aquifer 0							Aquifer 2			
	Upgradient Well			Downgradient Wells				Upgradient Well	Downgradient Wells		
	FIT-MW3										
	FIT-MW3	Duplicate*	L-2	L-4	L-14	L-15	SPRING [#]	SC-2B	L-3	SC-5B	SC-9B
Dissolved metals											
Manganese	1 U	7.7 B	1.6 B	2550	855	2.1 B	38	3 B	130	708	37
Volatile organic compounds											
Vinyl chloride	5 U	5 U	1 U	4 J	0.6 J	3 U	1 U	1 U	1 U	0.2 J	1 U
1,1-Dichloroethene	10	10	0.5 J	7 U	2	5	1	1 U	1 U	1 U	2
1,2-Dichloroethene (total)	10	10	1 U	4 J	18	2 J	5	1 U	0.3 J	0.3 J	22
1,1,1-Trichloroethane	5 J	4 J	0.4 J	7 U	2	4	1	1 U	1 U	1 U	1
Trichloroethene (TCE)	67	62	0.5 J	7 U	5	25	3	2	1	0.7 J	3
Benzene	5 U	5 U	1 U	2 J	1 U	3 U	1 U	1 U	1 U	1 U	1 U
Tetrachloroethene (PCE)	100	93	0.9 J	7 U	4	59	7	3	5	2	3

Units are micrograms per liter.

B The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).

J The associated value is an estimated quantity.

U The analyte was not detected above the level of the associated value.

* Field duplicate

Groundwater discharge to surface location

Table B3: Analytical Results for Monitoring Well FIT-MW3

Analyte	Sample Date																											
	5/31/86	10/6/86	1/28/87	5/9/87	11/3/89	9/7/90*	4/10/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	NA				NA	35 UN	35.3 B	7.6 BJ	12 B	NS	1.6 UB	2 U	5.1 U	2.9 U	10 U	4.2 U	5.2 U	3.7 U	5.4 U	4.3 U	3.4 U	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	NA				NA	2.9 BWN	1 UNW	1.5 UJ	3.4 U	NS	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 UJ	5.2 U	8.7 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	NA	1660	NA	NA	NA	5640	2.3 B	3.2 BEJ	3.6 B	NS	1 UB	0.3 U	0.3 U	0.4 U	5.3 UB	1.8 U	1.4 U	1.1 U	1.6 U	17.9	0.7 UJ	1.4 U	0.8 U	1.3 U	1.3 U	1 U	1.1 UJ	1 U
1,1,1-Trichloroethane	120	120	90	66	295	500 D	250 E		80	NS	54	70	54	64	45	59	41	29	35	32	26	15	8	8	5	5	5 J	5 J
1,1-Dichloroethene	5 U	5 U	19 J	3 J	49	51	31		16	NS	12	18	17	26	18	24	18	15	19	18	18	11	8	8	7	6	9	10
1,2-Dichloroethene (total)	44	43 J	19 J	5 U	1 U	23 S	24		18	NS	19	18	23	23	16	20	17	17	16	18	17	13	11	13	8	9	12	10
Benzene	5 U	5 U	5 U	5 U	NA	5 U	0.7 J		10 U	NS	10 U	10 U	11 U	19 U	8 U	10 U	9 U	10 U	15 U	16 U	9 U	7 U	7 U	4 U	4 U	5 U	6 U	5 U
Chloroform	5 U	5 U	5 U	5 U	0.5 U	5 U	0.7 UBJ		10 U	NS	10 U	10 U	11 U	19 U	8 U	10 U	9 U	10 U	15 U	16 U	9 U	7 U	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	670	710	500	444	626	1500 D	120 BE		210	NS	150	210	180	230	200	300 D	210	170	200	200	180	120	88	100	79	79	100	100
Trichloroethene (TCE)	1500	1400	1100	678	1172	970 D	220 E		150	NS	110	160	130	150	120	140	120	100	100	110	99	68	54	62	52	50	62	67
Vinyl chloride	10 U	10 U	10 U	10 U	1.8 U	10 U	2 U		10 U	NS	10 U	10 U	11 U	19 U	8 U	10 U	9 U	10 U	15 U	16 U	9 U	7 U	7 UJ	4 U	4 U	5 U	6 U	5 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

NA Not applicable

NS Not sampled. Access to the well could not be obtained.

* Total Metals

Table B4: Analytical Results for Monitoring Well L-2

Analyte	Sample Date																							
	5/29/86	8/86-9/86	4/2/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	26 U		24 U	2 U	5.2 B	2.4 U	5.5 UB	2 U	5.1 U	2.9 U	10 U	7.7 U	5.2 U	3.7 U	11.3 UJ	5.0 B	9.9 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U		2.5 B	1.5 U	3.4 U	3 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 UJ	5.2 U	8.7 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	513		65.5 E	0.99 U	2.6 B	0.3 U	0.52 UB	0.3 U	0.3 U	0.4 U	15.8	10.9	1.4 U	2.1 B	3.8 U	11.7 B	3.5 B	2.3 B	0.8 U	2.5 B	1.3 U	2.2 BJ	1.9 U	1.6 B
1,1,1-Trichloroethane	5 U	ND	6	10 U	1 U	0.5 J	1 U	0.9 J	0.8 J	1	0.7 J	10 U	0.4 J	0.5 J	0.3 J	0.4 J	1 U	0.3 J	1 U	0.2 J	0.2 J	0.3 J	0.2 J	0.4 J
1,1-Dichloroethene	5 U	ND	2	10 U	1 U	0.3 J	1 U	0.6 J	1 U	0.4 J	0.5 J	10 U	1 U	1 U	0.3 J	0.4 J	0.3 J	1 U	0.2 J	1 U	1 U	0.3 J	0.2 J	0.5 J
1,2-Dichloroethene (total)	5 U	ND	1 U	10 U	1 U	1 U	1 U	0.6 J	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5 U		0.2 J	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	5 U	ND	1 U	10 U	1 U	1 U	1 U	1 U	1 U	0.3 J	1 U	10 U	1 U	1 U	1 U	1 U	1 U	0.2 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	13	15 J	7	4 J	2	3 J	2	3	2	2	2	2 J	2	2	2	1	1	1	1	1	1	1	1	0.9 J
Trichloroethene (TCE)	1.3 J	ND	1	1 J	1	1	0.8 J	1	0.8 J	1	0.5 J	10 U	0.5 J	0.5 J	0.5 J	0.6 J	0.4 J	0.5 J	0.4 J	0.6 J	0.4 J	0.4 J	0.4 J	0.5 J
Vinyl chloride	10 U		2 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B5: Analytical Results for Monitoring Well L-3

Analyte	Sample Date																						
	5/29/86	4/8/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	29 U	55.2 B	2 U	14.3 B	2.4 U	1.7 UB	2 U	5.1 U	2.9 U	10 U	4.2 U	3.9 U	3.7 U	5.4 U	4.3 U	5.9 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U	2.1 B	4.4 U	3.4 U	6.3 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 U	5.2 U	2.4 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	4010	9820	6460	8900	4880	6710	7640	5090	3250	2220	1160	738	628	647	534	417	315	365	250	234	243	134	130
1,1,1-Trichloroethane	5 U	1 U	10 U	1 U	1 U	1 U	1 U	0.4 J	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5 U	1 U	10 U	1 U	1 U	1 U	1 U	0.7 J	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	1 U	0.5 J	1 U
1,2-Dichloroethene (total)	3.2 J	3	10 U	0.5 J	0.3 J	1 U	1 U	0.8 J	0.3 J	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	0.3 J	0.5 J	0.6 J	0.5 J	0.6 J	0.3 J
Benzene	3.3 J	4	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	0.2 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	5 U	0.1 J	10 U	1 U	0.3 J	0.6 J	1 U	3	1	1	10 U	2	2	3	4	3	5	3	6	7	6	7	5
Trichloroethene (TCE)	1.1 J	0.4 J	10 U	1 U	1 U	1	1 U	3	2	2	10 U	2	1	1	1	1	1	0.9 J	2	2	2	2	1
Vinyl chloride	7.1 J	13	10 U	2	0.3 J	1 U	2	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B6: Analytical Results for Monitoring Well L-4

Analyte	Sample Date																						
	5/29/86	4/8/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	26 U	24 U	2 U	11.7 B	2.4 U	3.9 UB	2 U	5.1 U	2.9 U	10U	4.8 UJ	5.2 U	3.7 U	5.4 U	4.3 U	5.4 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U	4 BNW	6 U	5 B	7.3 U	5.4 B	2.8 B	5.3 B	3.2 B	4 U	2.3 J	5.5 BJ	5.2 U	8.7 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	7260	3070	3170 F	3080	2750	3580	3610	3700	3240	3580	3670	4080	3110	3700	3470	3380	3370	3490	3530	3320	3350	3310	2550
1,1,1-Trichloroethane	5 U	1 U	10 U	1 U	1 U	4 U	1 U	2 U	0.4 J	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	8 U	1 U	7 U
1,1-Dichloroethene	5 U	1 U	4 J	2	1 U	4	6	4	6	2	5 J	2	0.4 J	2	1	2	3	1	1	1	8 U	0.8 J	7 U
1,2-Dichloroethene (total)	3.3 J	1 U	13	7	11	20	6	22	25	13	19	12	14	8	8	9.3	14	8	6	6	6 J	5	4 J
Benzene	5 U	3	3 J	5	0.6 J	2 J	1 U	2 J	0.6 J	2	2 J	2	0.7 J	3	1	4	0.6 J	3	3	3	2 J	3	2 J
Chloroform	5 U	1 U	10 U	1 U	1 U	4 U	1 U	2 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	5 U	0.2 UJB	10 U	1 U	1 U	4 U	1 U	2 U	0.3 J	1 U	10 U	1 U	0.4 J	1 U	1 U	1 U	0.2 J	1 U	1 U	1 U	8 U	0.2 J	7 U
Trichloroethene (TCE)	5 U	1 U	2 J	0.6 J	0.9 J	4 U	2	2 U	3	1	4 J	2	3	1	1	1	2	1	1	2	8 U	1	7 U
Vinyl chloride	10 U	8	8 J	5	3	10	7	14	10	9	8 J	9	4	9	5	10	8	6 J	7	4	6 J	4	4 J

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B7: Analytical Results for Monitoring Well L-14

Analyte	Sample Date																					
	4/9/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	57.9 B	2.3 B	4.9 B	2.4 U	4.2 UB	2 U	5.1 U	2.9 U	10 U	8.5 U	3.9 U	3.7 U	5.4 U	4.8 B	9.2 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	1 UNW	2.5 U	3.4 U	2.1 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 U	5.2 U	2.9 BU	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	1180	1260	1050	1230	1230	1230	1150	1210	1060	1060	1010	875	1160	1000	1110	934	896	957	850	955	873	855
1,1,1-Trichloroethane	10	6 J	5 J	4 J	3 J	3	4 J	4	3.4	3 J	4	2 J	4 J	3 J	5	4	2 U	4	2 J	2 J	2	2
1,1-Dichloroethene	14	28	19	17	11	14	16	19	14	14	11	7	15	10	18	9	7	7	5	5	3	2
1,2-Dichloroethene (total)	36	110	98	90	62	14	85	90	72	74	67	47	83	62	110	50 D	48	49	43	38	25	18
Benzene	1 U	10 U	7 U	5 U	4 U	2 U	5 U	4 U	3.1 U	10 U	4 U	2 U	5 U	4 U	5 U	0.3 J	2 U	2 U	3 U	2 U	1 U	1 U
Chloroform	1 U	10 U	7 U	5 U	4 U	2 U	5 U	4 U	3.1 U	10 U	4 U	2 U	5 U	4 U	5 U	0.6 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	10 B	7 J	8	7 J	6	7	9	9	10	11	9	5	10	7	11	7	8	7	6	5	6	4
Trichloroethene (TCE)	11	6 J	5 J	5	4 J	5	6	6	5.9	6 J	6	4	6	4 J	7	5	5	5	6	5	6	5
Vinyl chloride	2 U	6 J	3 J	3 J	2 J	2	2 J	3 J	1.9 J	2 J	2 J	1 J	2 J	4 U	2 J	1	0.5 J	2 U	3 U	2 U	0.4 J	0.6 J

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B8: Analytical Results for Monitoring Well L-15

Analyte	Sample Date																					
	4/8/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	39.5 B	7.6 BJ	4.1 B	2.4 U	5.3 UB	2 U	5.1 U	2.9 U	10 U	11.7 U	5.2 U	3.7 U	5.4 U	4.3 U	3.4 U	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	1 UNW	1.5 UJ	3.4 U	2.1 U	4 U	5 BU	4.2 U	2.5 U	4 U	1.3 U	2.9 UJ	5.2 U	2.4 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	1700	1590 EJ	1600	603	525	402	845	636	1000	886	1090	497	745	714	448	266	619	209	27.6	5.8 BJ	38.1	2.1 B
1,1,1-Trichloroethane	120 E		53	46	36	46	35	25	24	28	27	12	26	15	25	17	15	14	3	10	11	4
1,1-Dichloroethene	20		22	18	15	21	19	18	14	19	18	8	21	12	25	16	17	15	3	10	16	5
1,2-Dichloroethene (total)	42 E		16	13	10 J	21	9 J	8 J	6 J	11	9	5	8 J	5 J	10	7 J	6 J	6 J	1 J	4 J	5 J	2 J
Benzene	0.6 J		11 U	10 U	12 U	10 U	11 U	10 U	9 U	10 U	9 U	5 U	15 U	8 U	10 U	11 U	12 U	7 U	2 U	7 U	11 U	3 U
Chloroform	2 UB		11 U	10 U	12 U	10 U	11 U	3 J	9 U	2 J	9 U	5 U	15 U	8 U	10 U	11 U	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	240 BE		260	220 J	170	230	200	150	140	190 D	190	98	210	130	220	160	170	180	47	120	170	59
Trichloroethene (TCE)	230 E		130	110	90	120	97	78	70	91	87	44	92	56	100	66	66	71	17	50	68	25
Vinyl chloride	3		11 U	10 U	12 U	10 U	11 U	10 U	9 U	10 U	9 U	5 U	15 U	8 U	10 U	11 U	12 UJ	7 U	2 U	7 U	11 U	3 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B9: Analytical Results for Monitoring Well SC-2B

Analyte	Sample Date																									
	5/8/86	9/9/86	1/13/87	5/16/87	4/2/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	19 U	40 U			24 U	3.1 B	10.2 B	2.4 U	2.4 UB	2 U	5.1 U	2.9 U	10 U	4.5 UJ	5.2 U	3.7 U	5.4 U	4.3 U	6.8 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U	10 U			1.3 B	2.3 U	3.4 U	2.9 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 UJ	5.2 U	2.4 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	16 EJ	12 EJ		NA	151 E	2 B	3.6 B	1.9 B	1.1 UB	3.1 BU	0.3 U	0.4 U	1.1 U	1.8 U	1.4 U	1.1 U	2.5 B	11.9 B	0.7 U	1.4 U	0.8 U	1.3 U	1.3 U	5.1 BJ	1.9 U	3 B
1,1,1-Trichloroethane	5 U	5 UJ	5 UJ	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5 U	5 U	5 UJ	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	5 U	5 U	5 UJ	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Benzene	5 U	2.7 J	5 UJ	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform	5 U	5 U	5 UJ	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	0.2 J	1 U	10 U	1 U	0.3 J	1 U	0.4 J	0.4 J	0.3 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	1.8 J	2.4 UJ	5 UJ	2 J	1	2 J	1	1 J	1	1	1	2	2	4 J	4	5	5	6	5	4	5	5	4	4	4	3
Trichloroethene (TCE)	6	5.8 J	5 UJ	6	4	4 J	3	4	4	4	3	4	3	4 J	3	3	3	3	3	3	2	2	2	2	2	2
Vinyl chloride	10 U	10 U	10 UJ	10 U	2 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B10: Analytical Results for Monitoring Well SC-5B

Analyte	Sample Date																									
	5/13/86	9/5/86	1/20/87	5/2/87	4/3/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	19 U	40 U			55.8 B	2 U	8.5 B	2.4 U	4 UB	2 U	5.1 U	2.9 U	10 U	12.5 U	3.9 U	3.7 U	5.4 U	4.3 U	5.2 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U	10 U			1 U	2 U	3.4 U	2.3 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.5 J	2.9 U	5.2 U	2.4 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	1495	1660			1220	1090	1240	1270	1070	1030	774	727	738	626	485	362	345	378	1560	1.4 U	759	877	928	909	745	708
1,1,1-Trichloroethane	5 U	5 U	5 U	1.8 J	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene	5 U	5 U	5 U	5 U	0.1 J	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichloroethene (total)	5 U	5 U	2 J	1.9 J	2	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.4 J	1 U	1 U	1 U	0.3 J
Benzene	5 U	5 U	5 U	5 U	0.2 J	10 U	1 U	0.5 J	1 U	1 U	1 U	0.3 J	1 U	10 U	1 U	1 U	1 U	1 U	1 U	0.2 J	1 U	1 U	1 U	0.2 J	1 U	1 U
Chloroform	5 U	5 U	5 U	5 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	5 U	3 J	3 J	5.1 J	3	1 J	0.9 J	0.8 J	0.8 J	0.9 J	0.8 J	0.8 J	0.68 J	10 U	1	0.6 J	1	1	0.6 J	0.6 J	4	1	3	1	2	2
Trichloroethene (TCE)	2.6 J	5 J	6	7.3	11	2 J	2	1	1	1	1	1	1.1	10 U	1	0.8 J	1	1	0.5 J	0.6 J	1	0.8 J	0.8 J	0.6 J	0.7 J	0.7 J
Vinyl chloride	10 U	10 U	10 U	10 U	2 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	0.3 J	1 U	1 U	0.2 J	0.2 J

Units are micrograms per liter.
See Table B13 for an explanation of data qualifiers.
The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B11: Analytical Results for Monitoring Well SC-9B

Analyte	Sample Date																									
	5/29/86	9/10/ 86	1/27/87	5/6/87	4/3/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
Antimony	19 U	40 U			87.1	2.2 B	2.8 B	2.4 U	1.3 UB	2 U	5.1 U	2.9 U	10 U	4.2 U	3.9 U	3.7 U	5.4 U	4.3 U	9.6 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic	10 U	10 U			1 U	1.5 U	3.4 U	2.1 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 U	5.2 U	9 BU	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese	8548 EJ	7600 EJ			2240	2270	2250	738	1750	784	1100	10.5 B	33	4.4 J	469	1.1 U	1.6 U	14.8 B	0.7 UJ	7.5 B	17	6 B	4.8 B	77.5	11 B	37
1,1,1-Trichloroethane	3.8 J	5 U	3 J	5 U	3	1 J	5 U	0.7 J	4 U	3 U	2 U	2 J	1.4 J	10 U	2 J	1 J	3 J	2 J	4	3	3	2 J	2 J	2	2	1
1,1-Dichloroethene	5 U	5 U	4 J	5 U	7	10	20	3	7	8	4	8	5.7	7 J	5	5	7	7	10	6	6	4	1 J	3	0.6 J	2
1,2-Dichloroethene (total)	5.2	5	23	12	33	45	93	18	39	8	34	46	38	43	42	33	56	51	82	50 D	42.5 D	43	43	34	31	22
Benzene	3.1 J	3 J	5	2 J	2	10 U	5 U	1 U	4 U	3 U	2 U	3 U	1.6 U	10 U	2 U	2 U	3 U	3 U	2 U	1 U	1 U	4 U	2 U	2 U	2 U	1 U
Chloroform	5 U	5 U	5 U	5 U	1 U	10 U	5 U	1 U	4 U	3 U	2 U	3 U	1.6 U	10 U	2 U	2 U	3 U	3 U	0.7 J	0.6 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)	5.7	5 U	1 J	5 U	3	2 J	3 J	1 J	2 J	4	2	5	4.2	9 J	5	6	6	6	7	6	5	5	4	3	3	3
Trichloroethene (TCE)	2.7 J	2 J	8	5	4	4 J	8	2	4	5	4	5	4.4	7 J	4	5	4	5	5	4	4	3 J	4	3	4	3
Vinyl chloride	8.9 J	10 U	18	10 U	2 U	26	22	2	8	7	7	3 U	1.6 U	10 U	2 U	2 U	3 U	3 U	2 U	1 U	1 UJ	4 U	2 U	2 U	2 U	1 U

Units are micrograms per liter.
See Table B13 for an explanation of data qualifiers.
The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B12: Analytical Results for Groundwater Discharge to Surface Location

Analyte	Sample Date:	4/1/91	4/1/91	4/1/91	9/94	3/95	9/95	3/96	9/96	3/97	9/97	3/98	9/98	3/99	9/99	3/00	9/00	3/01	9/01	3/02	9/02	4/03	9/03	3/04	9/04
	Site ID:	SW-1	SW-2	SW-3																					
Antimony		24 U	24 U	24 U	7.1 BJ	6.6 B	2.8 B	2.8 UB	2 U	5.1 U	2.9 U	10 U	5.2 U	5.2 U	3.7 U	5.4 U	4.3 U	6.4 BU	4.7 U	NA	NA	NA	NA	NA	NA
Arsenic		1.9 B	1.1 B	1.5 B	1.5 UJ	3.4 U	2.9 U	4 U	2.7 U	4.2 U	2.5 U	4 U	1.3 U	2.9 UJ	5.2 U	2.4 U	4.6 U	9.0 U	3.9 U	NA	NA	NA	NA	NA	NA
Manganese		72.4 E	68.7 E	64.2 E	50.8 EJ	42.7	52.8	39.2	50.9	18	21.4	42.3	52	21	46.3	31.3	52.6	20.7	16.2	12.3 B	36.2	30.2	41.4	19.6	38
1,1,1-Trichloroethane		15	13	13		4	4	3	4	3	3	3	4 J	4	5	4	4	4	3	2	2	2	2	2	1
1,1-Dichloroethene		15	14	12		4	4	3	5	3	3	3	5 J	3	5	4	4	4	3	2 J	2	2	2	2	1
1,2-Dichloroethene (total)		53 E	45 E	41 E		20	24	16	5	17	16	18	27	19	25	21	23	21	18	11	9	8	7	6	5
Benzene		0.3 J	1 U	0.2 J		1 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U
Chloroform		1	1	1 UB		1 U	0.4 J	1 U	1 U	0.3 J	0.4 J	1 U	10 U	0.5 J	0.5 J	0.5 J	0.5 J	0.7 J	0.6 J	NS	NS	NS	NS	NS	NS
Tetrachloroethene (PCE)		23	23	17		8	8 J	6	9	7	7	10	16	12	14	13	10	13	10	7	6	9	9	9	7
Trichloroethene (TCE)		11	11	8		5	5	4	6	4	4	4	6 J	5	6	4	4	5	4	3	3	4	4	4	3
Vinyl chloride		2 U	2 U	2 U		1 U	2 U	1 U	1 U	1 U	1 U	1 U	10 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 U

Units are micrograms per liter.

See Table B13 for an explanation of data qualifiers.

The concentrations for antimony, arsenic, and manganese are dissolved unless otherwise noted.

Table B13: Data Qualifiers Applied to Analytical Results

Inorganic Qualifiers

- B - The reported value was obtained from a reading that was less than the Contract Required Detection Limit (CRDL) but greater than or equal to the Instrument Detection Limit (IDL).
- E - The reported value is estimated because of the presence of interference.
- J - The associated value is an estimated quantity.
- N - Spiked sample is not within method required control limit.
- R - Data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.
- S - Method of standard addition used to perform the quantitation.
- U - The material was analyzed for but was not detected above the level of the associated value. The associated value is either the sample quantitation limit or the sample detection limit.
- W - Post-digestion spike for Furnace AA analysis is out of control limits (85 to 115 percent), while sample absorbance is less than 50 percent of spike absorbance.
- * - Duplicate analysis is not within control limits.

Organic Qualifiers

- B - Analyte is present in the investigative sample and in the related method blank.
- C - Data are estimated because of noncompliance of the associated calibration with method stipulated quality control criteria.
- D - Diluted result quantitation was performed after a primary dilution of the investigative sample.
- E - Estimated value; concentration of qualified analyte exceeds the calibration range of the analytical method.
- J - The associated value is an estimated quantity.
- N - Presumptive evidence of presence of material.
- R - The data are unusable (compound may or may not be present). Resampling and reanalysis are necessary for verification.
- S - Supporting data necessary to rely on this result. Unreliable result without correlation.
- U - The material was analyzed for but was not detected. The associated numerical value is the sample quantitation limit.
- UB - Sample result is less than 5 times (10 times for common laboratory contaminants) the associated blank result. The sample quantitation limit has been increased as a result of blank contamination.

APPENDIX C

Site-Wide Groundwater Monitoring Data

TABLE 1
Groundwater Performance Monitoring Program
Monitoring Well/Surface Water Sample Locations
and Property Owner Contacts for Access

Well Identification	Location	Property Owner/Contact for Access
SC-21B	South bank of Sand Creek; east of RW-1 and RW-2.	Jones Fine Sand; 5400 Forest Street Denver, CO 80022; Attn: Carl Palizzi (303) 289-1428
URS-1	Approx. 100' north of northwest corner of Matteson building.	Denver & Rock Island Railroad (?) Attn: Lonnie (303) 296-0900 Colorado and Eastern Railroad Co. (?) 1227 Lake Plaza Drive Colorado Springs, CO 80906 Attn: Rod Bloomquist (719) 576-7000
URS-21	Northwest of site; north of railroad tracks.	L.C. Corporation; c/o John Lafollette 5310 Ward Road, Suite G-07; Arvada, CO 80002
ERB-20*	American Roofing Supply, Inc. 4550 E. 52nd Avenue (Northwest corner of paved lot)	American Roofing Supply, Inc. 4550 E. 52nd Avenue; Denver, CO 80022 Vernon Randall (303) 333-3700
SW-1 (surface water)	Sand Creek; east of 56th Avenue overpass and downstream of storm sewer outfall; access via L.C. Corporation property.	L.C. Corporation; c/o John Lafollette 5310 Ward Road, Suite G-07; Arvada, CO 80002 (303) 423-8346
SW-2 (surface water)	Sand Creek; west (downstream) of spillway, approximately 0.5 miles upstream of 56th Avenue overpass and location SW-1; access via Jones Fine Sand.	Jones Fine Sand; 5400 Forest Street Denver, CO 80022 Attn: Carl Palizzi

* Well ERB-20 was not routinely sampled for the Remedial Action Performance Monitoring; however, water/product levels were monitored in this well.

TABLE 2
Key Contaminants of Concern

Parameter	Remediation Goal ($\mu\text{g/L}$)	Analytical Method	Practical Quantitation Limit ($\mu\text{g/L}$)
Benzene	5.0	EPA 8260	2.0
Chlorobenzene	100	EPA 8260	2.0
Chloroform	6.0	EPA 8260	2.0
1,2-Dichlorobenzene	600	EPA 8270	10
1,4-Dichlorobenzene	75	EPA 8270	10
1,1-Dichloroethene	7.0	EPA 8260	2.0
Trans-1,2-Dichloroethene	100	EPA 8260	2.0
Cis-1,2-Dichloroethene	70	EPA 8260	3.0
Ethylbenzene	680	EPA 8260	2.0
Methylene Chloride	5.0	EPA 8260	2.0
Styrene	100	EPA 8260	2.0
Tetrachloroethene	5.0	EPA 8260	2.0
1,1,1-Trichloroethane	200	EPA 8260	2.0
Trichloroethene	5.0	EPA 8260	2.0
Vinyl Chloride	2.0	EPA 8260	2.0
Dieldrin	0.002	EPA 8081	0.044
4,4-DDT	0.1	EPA 8081	0.081
Lindane (Gamma-BHC)	0.2	EPA 8081	0.025
Antimony	6.0	EPA 7041	3.0
Arsenic	50	EPA 7060	2.0
Beryllium	4.0	EPA 6010	2.0
Lead	50	EPA 7421	2.0
Manganese	50	EPA 6010	2.0
Selenium	50	EPA 7740	2.0

Table 3. Field Chemistry Parameters Sand Creek Industrial Site April 2005 Monitoring Event									
Location	Static Water Level (fbgs)	Discharge (mL/min)	Final Drawdown Level (fbgs)	Temperature (°C)	pH (s.u.)	Dissolved Oxygen (mg/L)	Total Dissolved Solids (mg/L)	Conductivity (mS)	Volume Purged (L)
SC-6A	27.90	400	> 32	16.8	6.89	NA	NA	3.38	11
SC-7A	17.54	1000	19.54	13.1	5.62	NA	NA	0.47	33
SC-12A	66.59	900	66.59	17.2	7.27	NA	NA	1.12	15
SC-17A	17.32	400	19.00	15.9	6.63	NA	NA	1.74	8
SC-16B	30.46	1000	30.46	15.9	6.80	NA	NA	1.23	16
SC-21B	4.90	800	5.00	15.9	6.83	NA	NA	1.19	16
SC-3R	20.00	300	28.55	16.0	7.38	NA	NA	0.62	6
RW-1	5.30	900	5.39	16.2	6.94	NA	NA	1.13	15
RW-2	5.17	1000	5.19	11.9	7.22	NA	NA	1.32	15
RW-3	23.50	1000	23.13	15.6	6.98	NA	NA	1.14	18
RW-4	23.07	1000	23.19	16.0	6.75	NA	NA	1.13	27
RW-5	21.53	700	21.60	14.4	7.10	NA	NA	1.43	17
URS-1	17.15	500	17.55	15.8	6.64	NA	NA	1.13	8
URS-21	24.22	700	26.19	16.1	6.03	NA	NA	1.43	14

fbgs - feet below ground surface

NA - data not available

Table 4. Semi-volatile and Volatile Organic Compound Concentrations (µg/L)
Sand Creek Industrial Site April 2005 Monitoring Event

Location	Benzene	Chlorobenzene	Chloroform	1,2-Dichloro- benzene	1,3-Dichloro- benzene	1,4-Dichloro- benzene	Ethylbenzene	Isopropyl- benzene	n-Propyl- benzene	1,2,4- Trimethylbenzene	1,3,5- Trimethylbenzene	Methylene Chloride	Toluene	o-Xylene	m,p- Xylene
RG	5.0	100	6.0	-	75	680	-	-	-	-	-	5.0	1000	10,000	10,000
SC-6A	34	U 2.0	U 2.0	U 2.0	U 2.0	0.38 J	0.56 J	0.76 J	0.40 J	0.32 J	U 2.0	14	U 2.0	U 2.3	0.66 J
SC-7A	0.24 J	2.8	U 2.0	8.1	U 2.0	4.8	2.4	1.4 J	1.5 J	1.3 J	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
SC-12A	U 1.0	U 2.0	0.54 J	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
SC-17A	U 10	U 20	U 20	U 20	U 20	U 20	U 20	U 26	U 20	U 27	U 20	13 JB	U 20	U 23	U 20
SC-16B	U 1.0	3.2	U 2.0	U 2.0	U 2.0	0.25 J	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
SC-21B	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	0.32 J	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
SC-3R	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
RW-1	U 1.0	U 2.0	0.44 J	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
RW-2	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
RW-3	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
RW-4	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
RW-5	U 1.0	3.7	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
URS-1	U 1.0	U 2.0	U 2.0	0.50 J	U 2.0	U 2.0	U 2.0	5.0	1.8 J	12	1.1 J	U 5.0	U 2.0	U 2.3	1.9 J
URS-21	840	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	82	50	49	440	160	U 5.0	15	14	480
SW-1	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0
SW-2	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.6	U 2.0	U 2.7	U 2.0	U 5.0	U 2.0	U 2.3	U 2.0

U - analyte not detected at the reported limit

J - analyte was detected at a concentration less than the analytical reporting limit

Table 5. Tetrachloroethene and Related Compounds Concentrations (µg/L)							
Sand Creek Industrial Site April 2005 Monitoring Event							
Location	1,1-Dichloroethene	Cis-1,2-Dichloroethene	Trans-1,2-Dichloroethene	Tetrachloroethene	1,1,1-Trichloroethane	Trichloroethene	Vinyl Chloride
RG	7.0	70	100	5.0	200	5.0	2.0
SC-6A	U 2.0	1.6 J	U 2.0	U 2.4	U 2.0	0.78 J	U 2.0
SC-7A	U 2.0	28	U 2.0	32	U 2.0	0.40 J	U 2.0
SC-12A	U 2.0	U 2.0	U 2.0	U 2.4	U 2.0	1.6 J	U 2.0
SC-17A	U 20	3.9 J	U 20	U 24	U 20	U 20	U 20
SC-16B	2.3	15	U 2.0	4.4	U 2.0	3.8	U 2.0
SC-21B	U 2.0	1.6 J	U 2.0	1.3 J	U 2.0	1.4 J	U 2.0
SC-3R	U 2.0	0.60 J	U 2.0	U 2.4	U 2.0	0.32 J	U 2.0
RW-1	U 2.0	U 2.0	U 2.0	9.9	U 2.0	1.3 J	U 2.0
RW-2	U 2.0	U 2.0	U 2.0	U 2.4	U 2.0	0.16 J	U 2.0
RW-3	U 2.0	U 2.0	U 2.0	2.3 J	U 2.0	2.2	U 2.0
RW-4	U 2.0	U 2.0	U 2.0	0.89 J	U 2.0	1.0 J	U 2.0
RW-5	2.6	20	U 2.0	2.6	U 2.0	3.0	U 2.0
URS-1	U 2.0	630	17	5.4	U 2.0	21	U 2.0
URS-21	U 2.0	U 2.0	U 2.0	U 2.4	U 2.0	U 2.0	U 2.0
SW-1	U 2.0	U 2.0	U 2.0	U 2.4	U 2.0	U 2.0	U 2.0
SW-2	U 2.0	U 2.0	U 2.0	U 2.4	U 2.0	U 2.0	U 2.0

U - analyte not detected at the reported limit

J - analyte was detected at a concentration less than the analytical reporting limit

Table 6. Pesticide Compounds Concentrations (µg/L)
Sand Creek Industrial Site April 2005 Monitoring Event

Location	CPMSO	2,4-D	4,4-DDT	Dieldrin	Gamma-BHC (Lindane)
RG	2.0	70	0.1	0.002	0.2
SC-6A	U 21	U 0.100	U 0.020	U 0.020	0.012
SC-7A	U 20	U 0.0977	U 0.018	U 0.018	U 0.0091
SC-12A	U 18	U 0.098	U 0.018	U 0.018	U 0.0091
SC-17A	U 21	U 0.0991	U 0.020	U 0.020	U 0.010
SC-16B	U 18	U 0.0966	U 0.018	U 0.018	U 0.0091
SC-21B	U 20	U 0.0951	U 0.018	U 0.018	U 0.0091
SC-3R	U 18	U 0.0983	U 0.018	U 0.018	U 0.0091
RW-1	U 20	U 0.0985	U 0.018	U 0.018	U 0.0091
RW-2	U 20	U 0.0973	U 0.018	U 0.018	U 0.0091
RW-3	U 18	U 0.0983	U 0.018	U 0.018	U 0.0091
RW-4	U 18	U 0.0975	U 0.018	U 0.018	U 0.0091
RW-5	U 20	U 0.0999	U 0.018	U 0.018	U 0.0091
URS-1	U 21	NA	0.076	U 0.020	U 0.010
URS-21	U 21	U 0.098	0.032	U 0.020	U 0.010
SW-1	U 19	1.94	U 0.018	U 0.018	U 0.0091
SW-2	U 21	1.04	U 0.020	U 0.020	U 0.010

**Table 7. Total and Dissolved Metals Concentrations (µg/L)
Sand Creek Industrial Site April 2005 Monitoring Event**

Location	Antimony		Arsenic		Beryllium		Chromium		Copper		Lead		Manganese		Selenium	
	T	D	T	D	T	D	T	D	T	D	T	D	T	D	T	D
RG	-	6	-	50	-	-	-	-	-	-	-	50	-	-	-	20
SC-6A	U 2.5	U 2.5	9.97	9.63	U 1.0	U 1.0	12	U 10	55	U 5.0	1.30	1.44	10,000	10,000	38.2	38.6
SC-7A	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	49	U 5.0	U 1.0	U 1.0	120	130	10.2	10.1
SC-12A	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	U 5.0	U 5.0	U 1.0	U 1.0	U 10	U 10	6.41	7.01
SC-17A	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	58	U 5.0	U 1.0	U 1.0	U 10	U 10	16.4	13.0
SC-16B	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	59	U 5.0	U 1.0	U 1.0	U 10	U 10	7.26	7.39
SC-21B	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	U 5.0	U 5.0	2.48	U 1.0	830	880	2.98	4.51
SC-3R	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	59	U 5.0	U 1.0	U 1.0	U 10	U 10	4.06	4.84
RW-1	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	U 5.0	U 5.0	1.12	U 1.0	50	45	9.14	7.96
RW-2	U 2.5	U 2.5	7.51	3.57	U 1.0	U 1.0	U 10	U 10	U 5.0	U 5.0	U 1.0	U 1.0	2,800	2,900	2.99	U 2.5
RW-3	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	71	U 5.0	U 1.0	U 1.0	220	230	5.94	5.97
RW-4	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	65	U 5.0	U 1.0	U 1.0	130	140	8.73	7.18
RW-5	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	15	U 10	U 5.0	U 5.0	U 1.0	U 1.0	14	U 10	5.12	3.96
URS-1	U 2.5	U 2.5	3.69	3.79	U 1.0	U 1.0	U 10	U 10	63	U 5.0	6.53	1.86	1,200	1,300	4.18	2.83
URS-21	U 2.5	U 2.5	10.3	9.45	U 1.0	U 1.0	U 10	U 10	52	U 5.0	9.84	6.98	4,900	5,100	9.03	7.41
SW-1	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	U 5.0	U 5.0	3.45	U 1.0	95	24	4.27	4.64
SW-2	U 2.5	U 2.5	U 2.5	U 2.5	U 1.0	U 1.0	U 10	U 10	69	U 5.0	11.2	U 1.0	280	20	3.9	U 2.5

T - Total

D - Dissolved

Table 8. Data Summary Table
Well SC-6A

Tetrachloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	2.2	U 0.12	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.4	U 2.4	U 2.4
Trichloroethene	U 2.0	U 2.0	U 2.0	2.1	U 2.0	1.3 J	2.4	1.6 J	1.0 J	1.6 J	1.6 J	U 2.0	1.2 J	0.99 J	1.0 J	1.2 J	0.85 J	1.7 J	0.78 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	19	3.5	3.5	U 2.0	4.0 U 2.0	2.5 J U 2.0	3.6 U 2.0	2.7 U 2.0	1.2 J U 2.0	2.7 U 2.0	2.4 U 0.37	2.2 U 2.0	1.7 J U 2.0	1.7 J U 2.0	1.5 J U 2.0	1.8 J U 2.0	1.5 J U 2.0	2.3 U 2.0	1.6 J U 2.0
Benzene	51 J	125	116	100	85	66	150	120	39	98	140	50	61	53	39	44	32	130	34
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 3.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	10	7.0	12	14	12	3.9	9.5	15	4.3	4.2	3.8	2.2	4.7	3.1	9.1	0.56 J
Methylene Chloride	20	35	13 B	35	37 B	28 B	45 B	21 B	37	25 B	23	32	25 B	24	27	20	18	15	14
1,2-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	3.4	U 0.56	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	1.1 J	U 2.0	U 2.0	U 2.0	2.5	U 0.51	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	0.38 J
Toluene	U 2.0	9.2	U 2.0	U 2.0	U 2.0	U 1.0	0.92 J	0.80 J	U 2.0	0.73 J	0.68 J	U 2.0	U 2.0	0.62 J	U 2.0	U 2.0	U 2.0	0.74 J	U 2.0
Xylenes	U 2.0	2.3	U 4.0	U 2.0	2.0 J	U 1.0 U 1.0	U 2.0 U 4.3	U 2.0 U 4.4	U 2.0 U 0.78 J	U 2.0 U 2.5	U 0.28 U 1.0 J	U 2.0 U 0.86 J	U 2.0 U 0.72 J	U 2.0 U 0.74 J	U 2.0 U 0.60 J	U 2.0 U 0.79 J	U 2.3 U 0.55 J	U 2.3 U 1.5 J	U 2.3 U 0.66 J
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

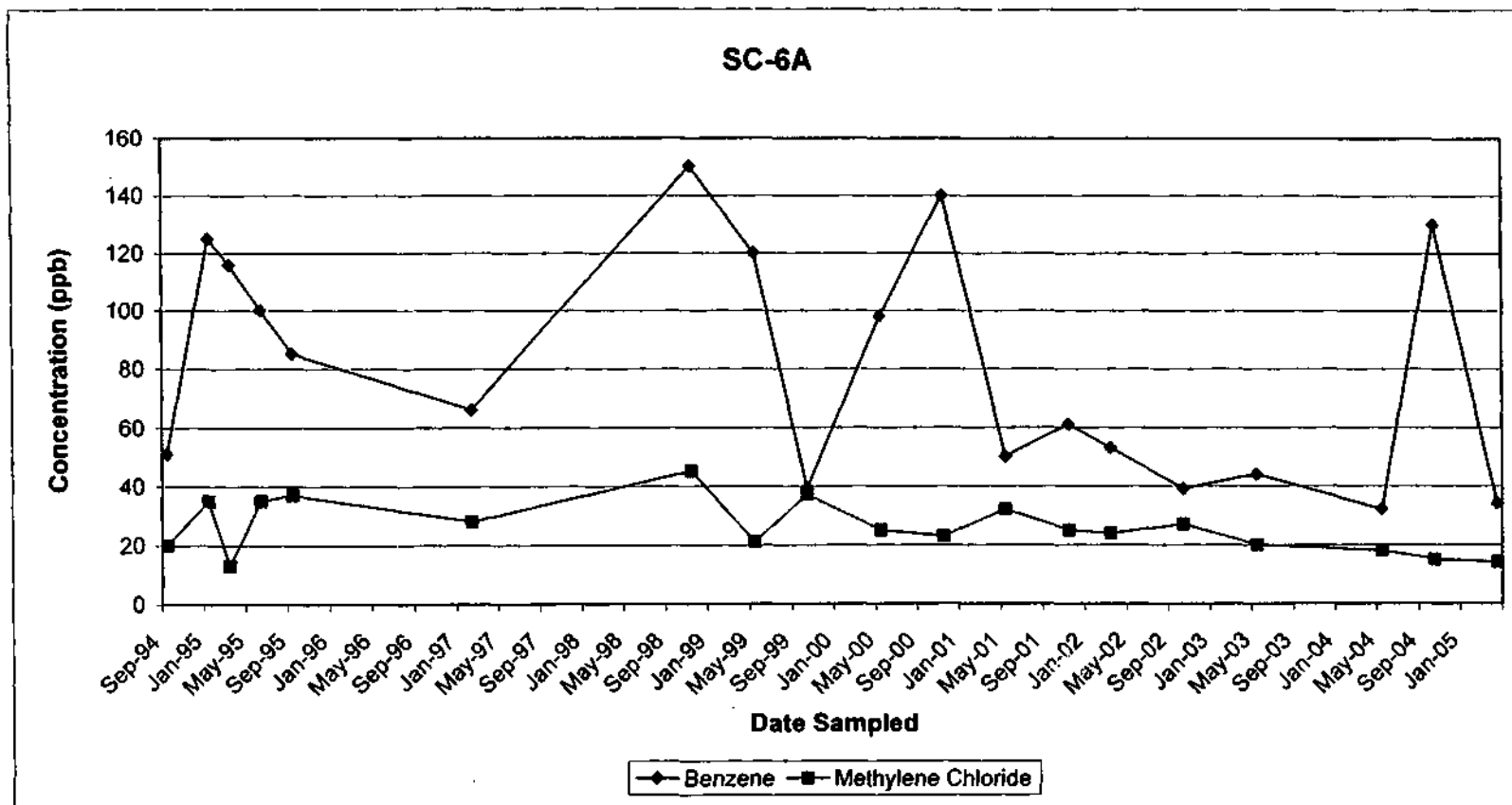


Table 9. Data Summary Table
Well SC-7A

Tetrachloroethene	NA	NA	NA	60 E	160 E	300 D	530 D	140	32 D	110 D	36	81	17	14	43	8.0	20 J	15.0	32
Trichloroethene	NA	NA	NA	58 E	160 E	980 D	400 D	9.1	28 D	40 D	25	4.5	15	10	14	U 2.0	6.9 J	1.1 J	0.40 J
1,1-Dichloroethene	NA	NA	NA	U 2.0	5.0	U 50 D	3.8	U 2.0	U 2.0	U 20	U 1.7	U 2.0	U 2.0	1.2 J	U 2.0	U 2.0	U 20	U 2.0	U 2.0
1,2-Dichloroethene	NA	NA	NA	2.0	330 E/U 2.0	3600 D/U 50 D	1300 D/U 2.0	21/U 2.0	170 D/U 2.0	570 D/U 20	130/U 1.8	U 2.0/U 2.0	88/U 2.0	390/U 96 J	160/U 2.0 J	U 2.0/U 2.0	650/U 20	32/U 2.0	28/U 2.0
Benzene	NA	NA	NA	180 E	110 E	220 D	120	U 2.0	19 D	220 D	8.5 J	U 2.0	14	170	24	U 2.0	6.8 J	U 2.0	0.24 J
Chlorobenzene	NA	NA	NA	68 E	87 E	150 D	180	2.2	32 D	460 D	47	U 2.0	120	750	130	U 2.0	68	6.8	2.8
Ethylbenzene	NA	NA	NA	160 E	110 E	260 D	210 D	2.8	82 D	330 D	150	U 2.0	160	230	55	U 2.0	32	14	2.4
Methylene Chloride	NA	NA	NA	U 2.0	38	U 50 D	23 B	14 B	U 50	U 50	U 5.8	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 50	U 5.0	U 5.0
1,2-Dichlorobenzene	NA	NA	NA	U 2.0	350 E	1900 D	1400 D	37	270 D	1600 D	180	3.4	200	870	98	U 2.0	120	20	8.1
1,4-Dichlorobenzene	NA	NA	NA	U 2.0	230 E	1100 D	660 D	28	120 D	830 D	72	4.3	110	460	65	U 2.0	U 20	11	4.8
Toluene	NA	NA	NA	35	50 E	78 D	41	0.79 J	6.4 DJ	27 D	U 1.3	U 2.0	4.5	31	2.2	U 2.0	U 20	U 2.0	U 2.0
Xylenes	NA	NA	NA	64	61 E	U 25 D/U 30 D	23/190	0.46 J/3.2	8.0 DJ/32 D	36 D/350 D	5.5 J/34	U 2.0/U 2.0	15/38	32/130	4.9/14	U 2.0/U 2.0	U 23/3.5 J	U 23/1.1 J	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

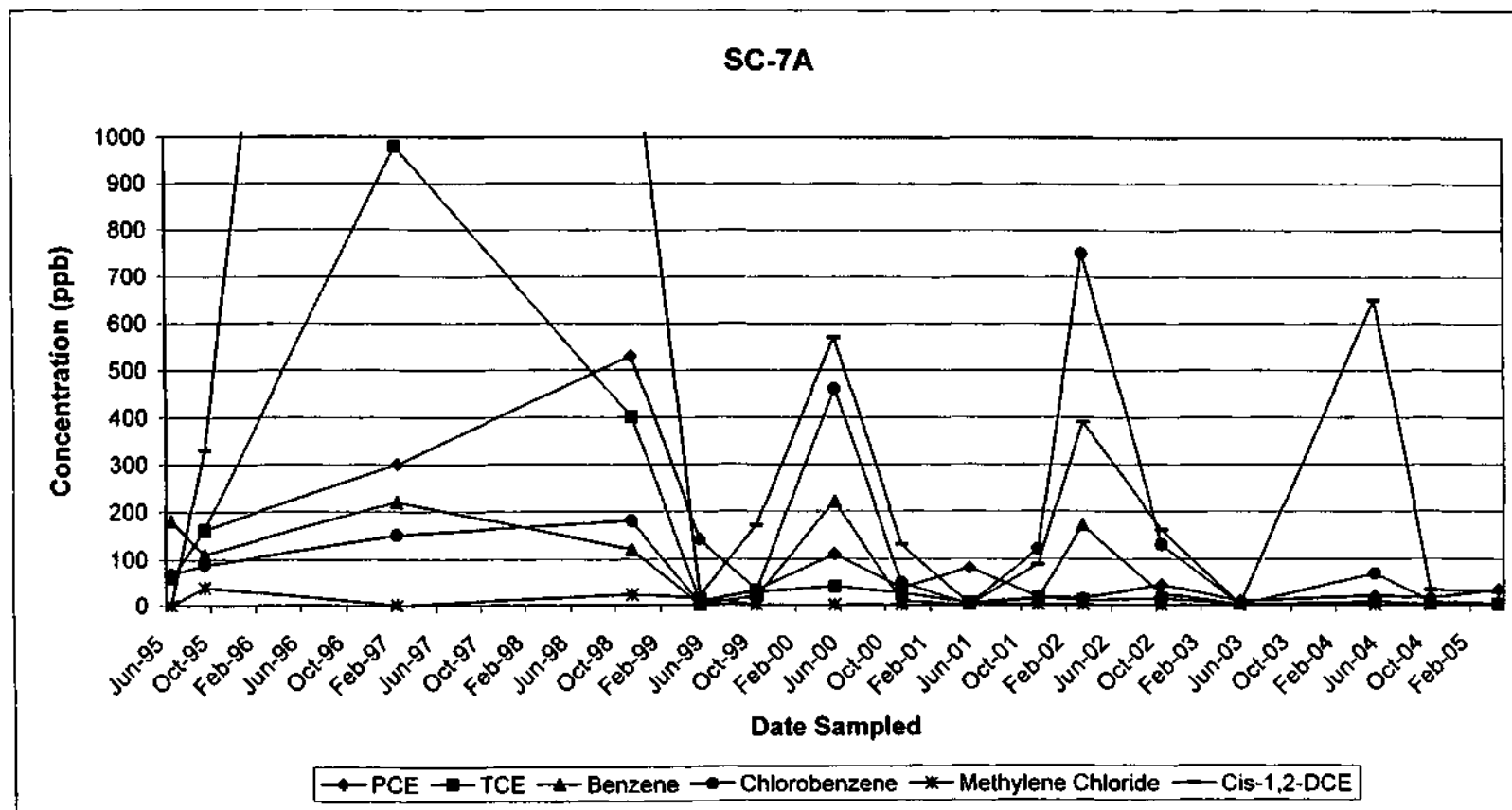


Table 10. Data Summary Table
Well SC-12A

Tetrachloroethene	2.0 J	U 2.0	U 2.0	1.9 J	2.0 J	0.98 J	0.92 J	0.76 J	1.6 J	1.3 J	1.2 J	0.98 J	U 2.0	1.0 J	1.1 J	0.96 J	0.98 J	1.5 J	U 2.0
Trichloroethene	5.8	7.2	6.0	5.5	5.0	3.7	2.3	1.9 J	2.4	2.2	1.5 J	1.5 J	1.8 J	1.4 J	1.7 J	1.6 J	1.2 J	1.4 J	1.6 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	4.0 U 2.0	U 3.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.25 U 0.37	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	0.69 J	U 2.0	U 2.0	U 2.0	U 2.0	0.61 J	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	38	U 2.0	4.3 JB	8.9 JB	U 10	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 2.0	NA	U 2.0	U 2.0	6.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 2.0	NA	U 2.0	U 2.0	2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	6.7 BJ	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

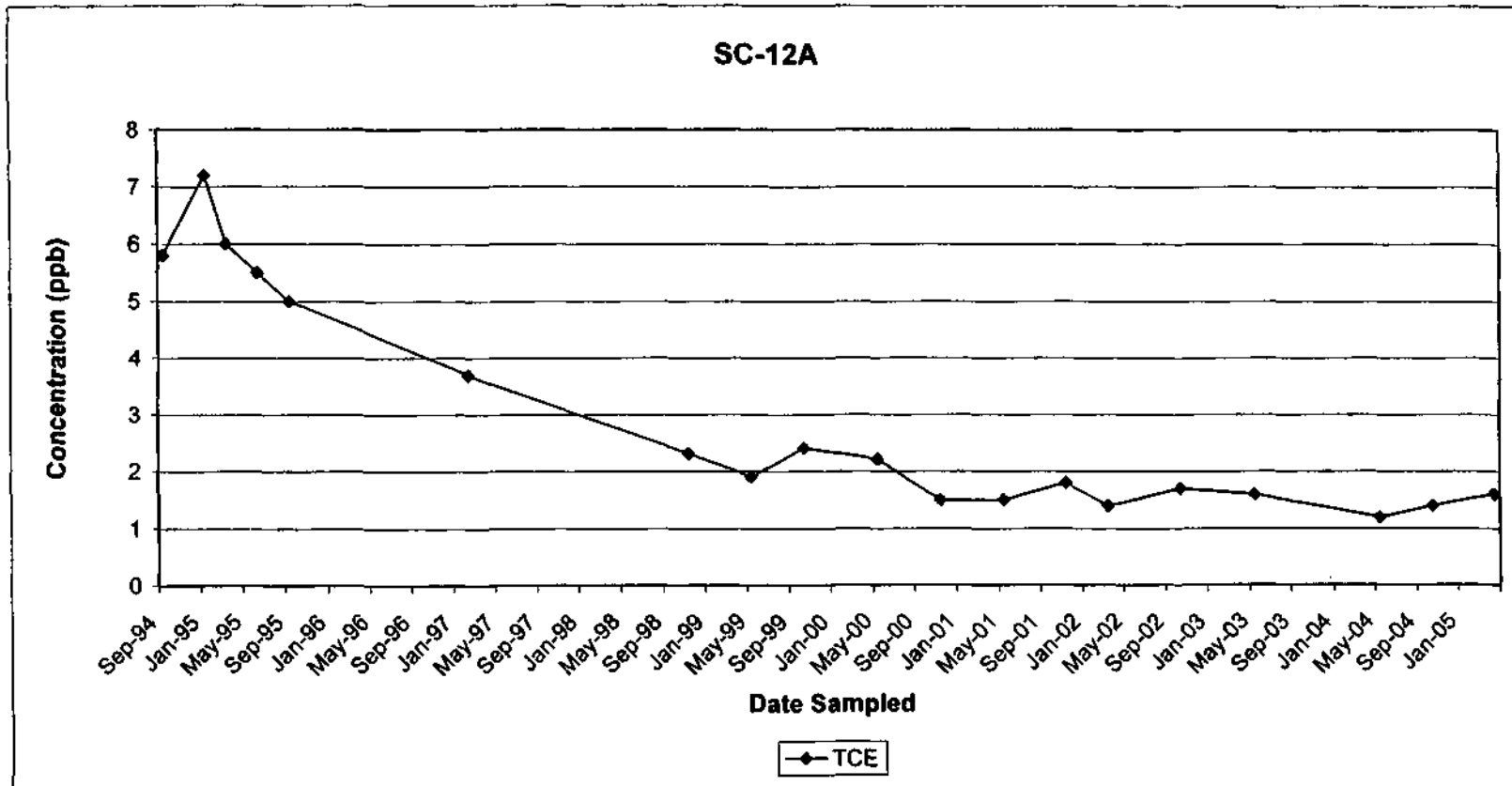


Table 11. Data Summary Table

Well SC-17A

Tetrachloroethene	16	24	NA	23	NA	2.0 J	1.6 J	0.53 J	0.93 J	1.1 J	1.8 J	0.93 J	1.5 J	1.5 J	1.9 J	0.83 J	0.24	0.24	0.20
Trichloroethene	53	74	NA	120	NA	2.0 J	1.3 J	0.79 J	1.3 J	1.6 J	0.26	1.4 J	3.3	1.9 J	3.1	1.2 J	1.0 J	0.83 J	0.20
1,1-Dichloroethene	U 2.0	U 2.0	NA	U 2.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	199	NA	U 2.0	NA	U 3.0/U 2.0	3.1/U 2.0	2.1/U 2.0	4.0/U 2.0	5.6/U 2.0	7.9/U 0.37	7.7/U 2.0	11/U 2.0	6.5/U 2.0	13/U 2.0	4.8/U 2.0	5.1/U 2.0	3.4/U 2.0	3.9/U 2.0
Benzene	U 2.0	U 2.0	NA	U 2.0	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	NA	U 2.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	NA	U 2.0	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	3.3 B	NA	U 2.0	NA	U 2.0	U 1.0	1.1 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	13 JB
1,2-Dichlorobenzene	U 2.0	NA	NA	U 2.0	NA	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.57	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 2.0	NA	NA	U 2.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.52	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	8.5 B	NA	U 2.0	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.52	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	NA	10 J	NA	U 1.0/U 1.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.28/U 0.15	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

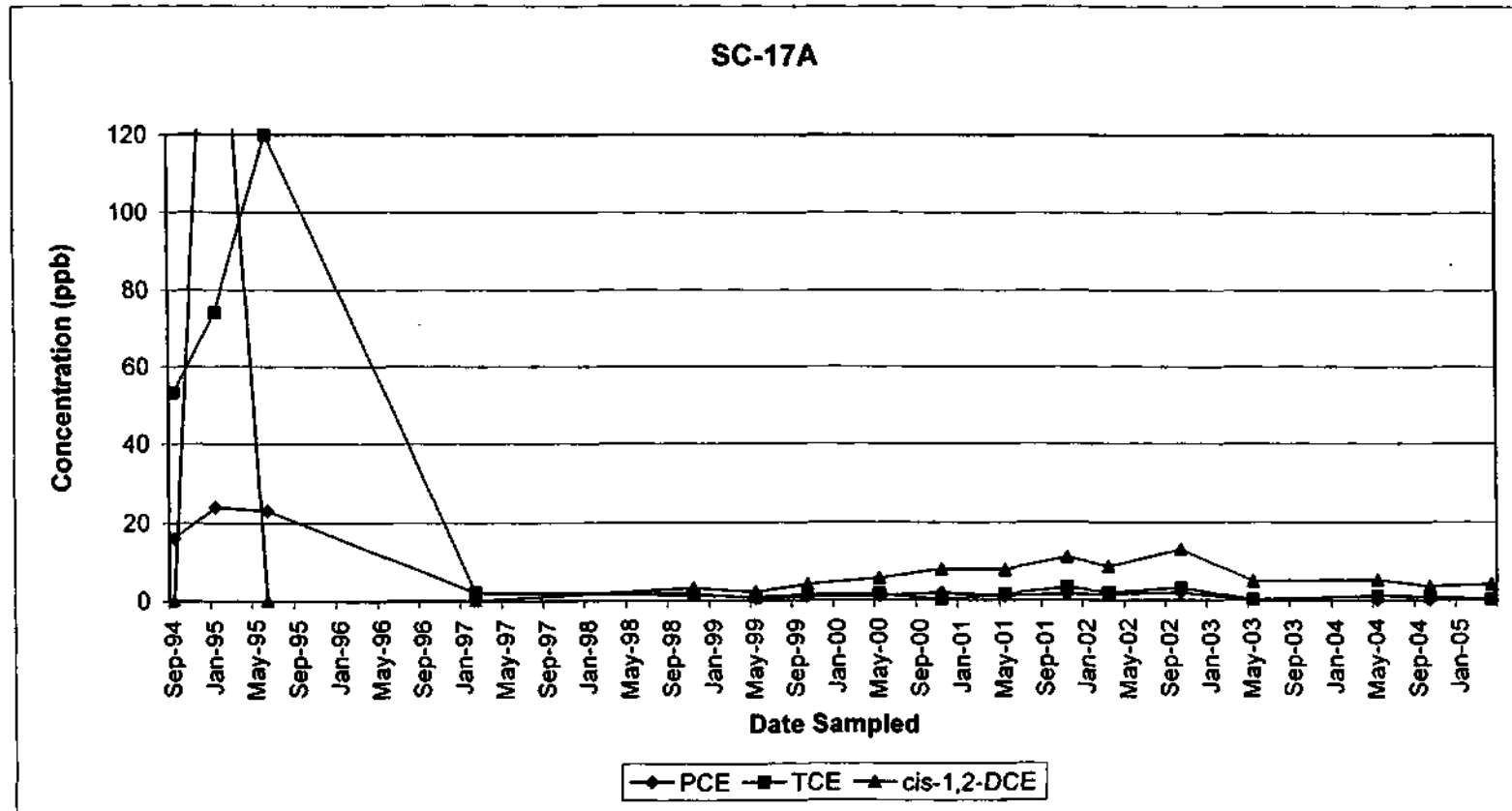


Table 12. Data Summary Table
Well SC-16B

Tetrachloroethene	5.4	6.0	6.0	6.0	4.0	4.8	5.2	4.2	8.0	7.1	6.3	8.6	6.0	4.8	4.9	4.3	4.0	4.0	4.4
Trichloroethene	4.9	5.6	6.0	6.0	4.0	3.9	4.7	4.3	4.7	5.3	U 0.26	4.4	4.5	3.4	3.9	3.0	3.4	3.6	3.8
1,1-Dichloroethene	10	14	15	18	8.0	7.1	14	6.5	8.4	12	6.6	9.6	11	7.8	8.1	5.4	3.9	3.9	2.3
1,2-Dichloroethene	U 2.0	62	U 2.0	U 2.0	31/U 2.0	39/U 2.0	46/U 2.0	35/U 2.0	30/U 2.0	42/U 2.0	47/U 0.37	58/U 2.0	34/U 2.0	42/U 2.0	44/U 2.0	32/U 2.0	24/U 2.0	24/U 2.0	15/U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	5.5	5.0	8.0	3.0	5.7	4.6	U 2.0	3.5	5.6	4.7	6.5	6.2	8.4	6.1	4.3	4.7	4.6	3.2
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	3.78	19.8	1.1 J	U 1.0	0.47 JB	U 1.2	U 0.5	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	0.84 J	U 2.0	0.68 J	0.72 J	0.72 J	0.58 J	U 2.0	0.25 J
Toluene	U 2.0	8.18	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 1.0/U 1.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.28/U 0.15	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

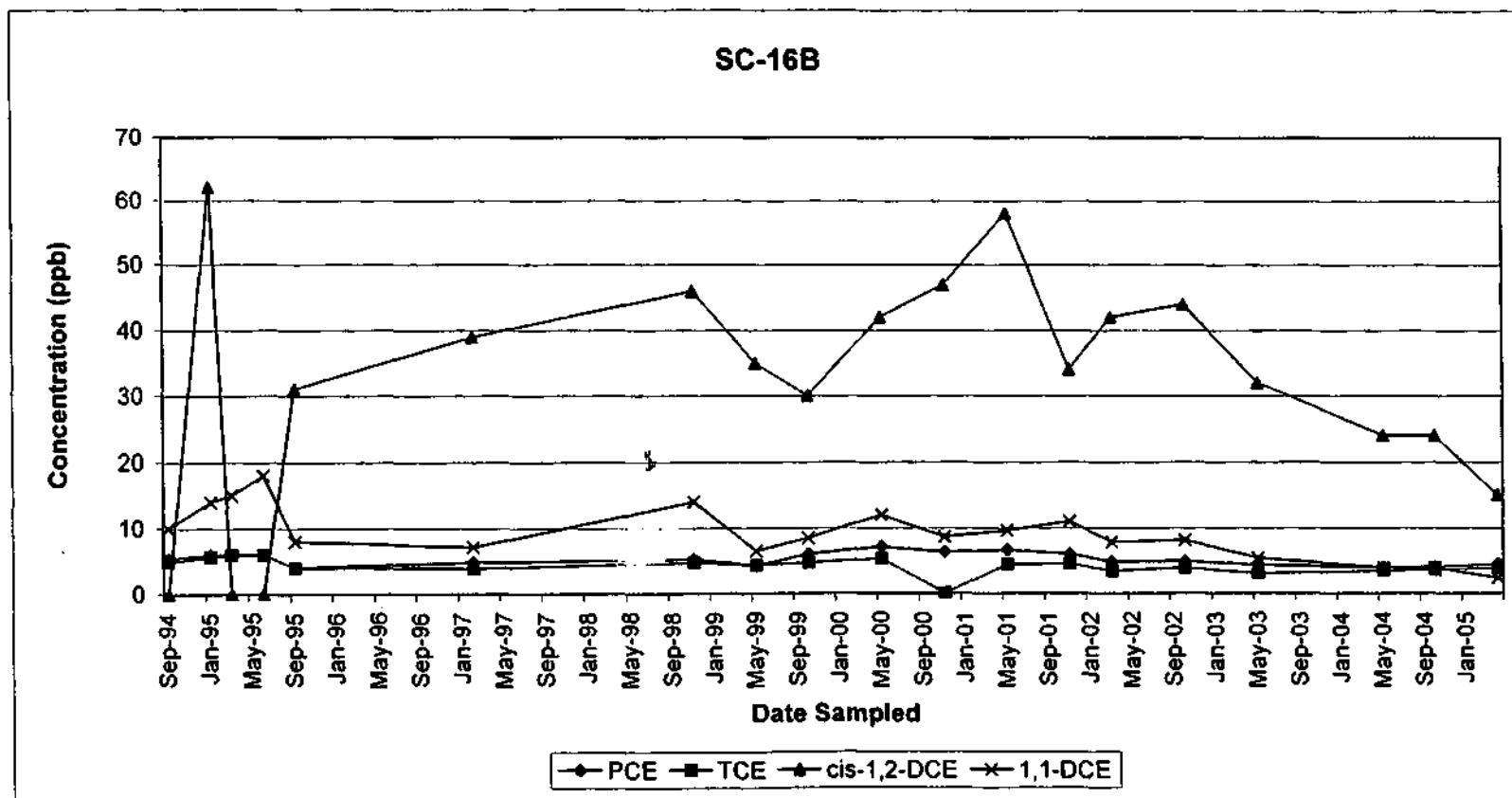


Table 13. Data Summary Table
Well SC-21B

Tetrachloroethene	U 2.0	2.1	2.0	U 2.0	1.0 J	1.3 J	0.59 J	0.56 J	U 2.0	0.78 J	0.67 J	U 2.0	U 2.0	1.5 J	0.59 J	0.45 J	U 2.4	U 2.4	1.3 J
Trichloroethene	3.0	2.9	3.0	2.5	2	1.6 J	1.3 J	0.92 J	0.74 J	1.2 J	U 0.26	U 2.0	0.97 J	1.2 J	0.96 J	0.70 J	U 2.0	U 2.0	1.4 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	1.1 J	0.56 J	U 2.0	0.60 J	U 0.35	U 2.0	U 2.0	0.65 J	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 3.0 U 2.0	5.5 U 2.0	3.4 U 2.0	3.2 U 2.0	4.4 U 2.0	U 0.25 U 0.37	2.8 U 2.0	2.6 U 2.0	4.1 U 2.0	2.8 U 2.0	1.6 J U 2.0	1.0 J U 2.0	U 2.0 U 2.0	1.6 J U 2.0
Benzene	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	0.53 J	0.53 J	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	0.43 J	0.43 J	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	2.7 B	2.9 JB	2.9 JB	U 10	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	0.84 J	0.83 J	U 2.0	U 2.0	1.4 J	1.1 J	0.32 J
Toluene	U 2.0	8.3	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 14. Data Summary Table
Well SC-3R

Tetrachloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.12	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.4	U 2.4	U 2.4
Trichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.26	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	0.32 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 3.0 U 2.0	0.91 U 2.0	0.60 J U 2.0	0.82 J U 2.0	0.64 J U 2.0	U 0.25 U 0.37	0.91 J U 2.0	0.94 J U 2.0	U 2.0 U 2.0	0.81 J U 2.0	0.65 J U 2.0	0.65 J U 2.0	U 2.0 U 2.0	0.60 J U 2.0
Benzene	51 J	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	20	U 2.0	U 2.0	U 2.0	1.0 JB	U 2.0	U 2.0	1.3 J	U 10	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	8.5 B	2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 15. Data Summary Table
Well RW-1

Tetrachloroethene	U 2.0	2.2	U 2.0	U 2.0	1.0 J	1.7 J	1.2 J	1.2 J	1.7 J	1.9 J	1.9 J	U 2.0	2.2	3.9	5.7	7.4	5.7	4.7	9.9
Trichloroethene	2.6	3.9	4.0	4.6	4.0	1.3 J	1.7 J	1.6 J	2.0	1.8 J	U 0.26	U 2.0	1.7 J	1.4 J	1.6 J	1.4 J	1.0 J	1.2 J	1.3 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 3.0 U 2.0	1.1 J U 2.0	1.0 J U 2.0	0.93 J U 2.0	U 2.0 U 2.0	U 0.25 U 0.37	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	0.49 J U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	2.8	U 2.0	1.1 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	8.2	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

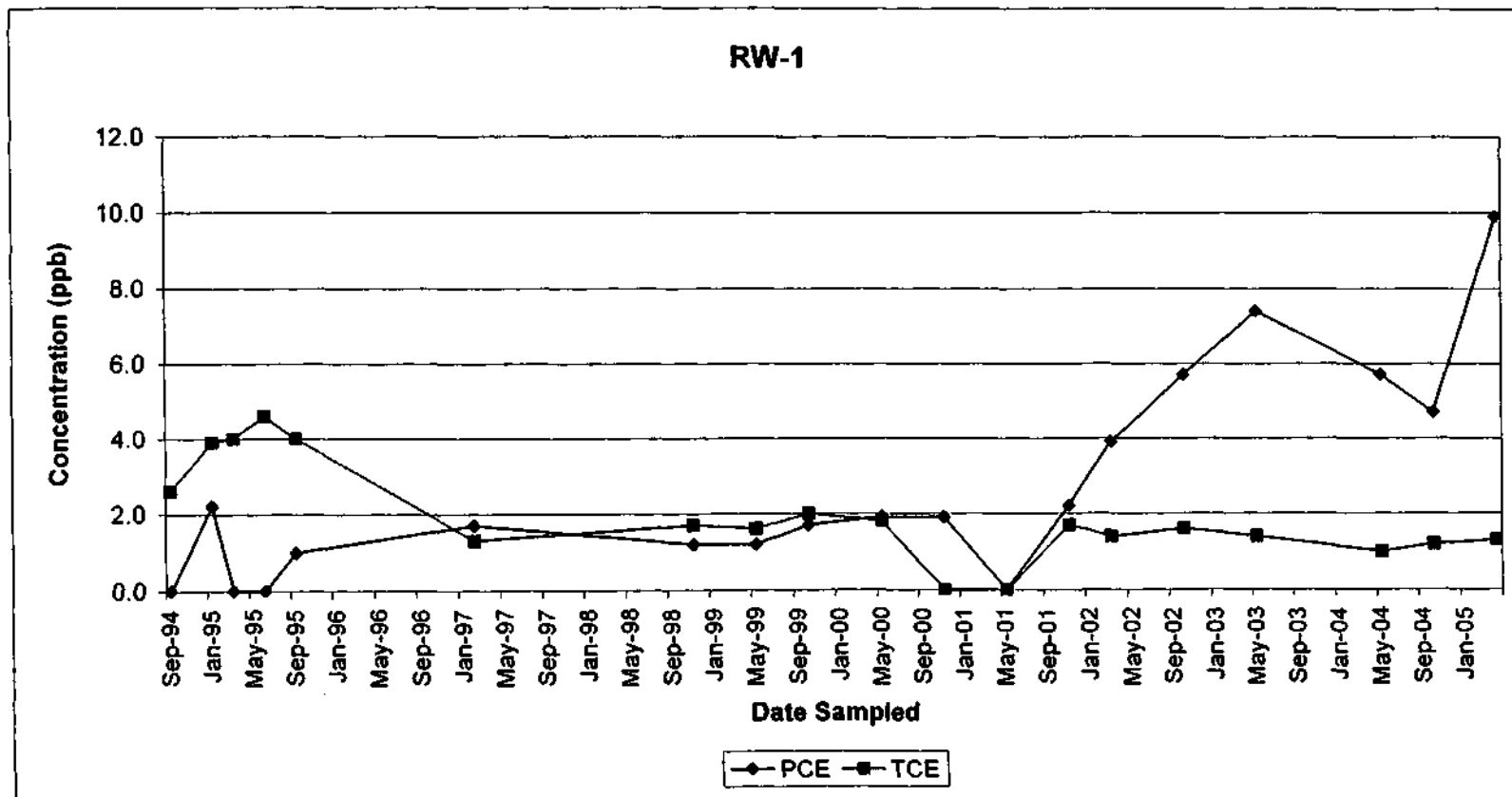


Table 16. Data Summary Table
Well RW-2

Tetrachloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	0.46 J	0.50 J	1.0 J	1.0 J	1.2 J	U 2.0	U 2.0	0.62 J	0.75 J	0.58 J	U 2.4	U 2.4	U 2.4
Trichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	2.0 J	U 2.0	0.62 J	0.64 J	1.0 J	0.84 J	U 0.26	U 2.0	U 2.0	U 2.0	0.82 J	0.71 J	U 2.0	U 2.0	0.16 J
1,1-Dichloroethene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	3.0	U 2.0	U 2.0	U 2.0	U 3.0/U 2.0	2.1 J/U 2.0	2.3/U 2.0	2.5/U 2.0	2.5/U 2.0	U 0.25/U 0.37	3.2/U 2.0	1.8 J/U 2.0	0.95 J/U 2.0	2.0/U 2.0	1.7 J/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	3.18	U 1.0	1.1 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	0.51 JB	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	8.4	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.28/U 0.15	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 17. Data Summary Table
Well RW-3

Tetrachloroethene	2.1	NA	NA	NA	NA	1.8 J	2.2	1.4 J	1.9 J	1.6 J	1.8 J	U 2.0	1.9 J	1.6 J	1.9 J	1.3 J	1.7 J	1.9 J	2.3 J
Trichloroethene	U 2.0	NA	NA	NA	NA	1.8 J	2.1	1.8 J	2.0	1.5 J	U 0.26	U 2.0	2.2	1.6 J	2.2	1.3 J	1.8 J	1.9 J	2.2
1,1-Dichloroethene	U 2.0	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	NA	NA	NA	NA	U 3.0 U 2.0	0.76 U 2.0	0.53 U 2.0	0.42 U 2.0	U 2.0 U 2.0	U 0.25 U 0.37	U 2.0 U 2.0	0.77 U 2.0	U 2.0 U 2.0	0.54 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0
Benzene	U 2.0	NA	NA	NA	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	NA	NA	NA	NA	U 2.0	3.1 JB	1.1 J	U 1.0	0.56 JB	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 1.0	NA	NA	NA	NA	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 1.0	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	NA	NA	NA	NA	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 18. Data Summary Table
Well RW-4

Tetrachloroethene	2.5	7.2	4.0	U 2.0	4.0	1.0 J	U 2.0	0.47 J	U 2.0	U 2.0	U 0.12	U 2.0	0.81 J	0.73 J	0.66 J	0.56 J	U 2.4	0.57 J	0.89 J
Trichloroethene	U 2.0	3.8	3.0	U 2.0	3.0	1.6 J	0.64 J	U 2.0	0.64 J	0.52 J	U 0.26	U 2.0	0.64 J	1.3 J	1.6 J	0.76 J	U 2.0	1.4 J	1.0 J
1,1-Dichloroethene	U 2.0	3.5	2.0	U 2.0	2.0 J	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	U 2.0	23.0	U 2.0	U 2.0	12 U 2.0	1.1 J U 2.0	0.48 J U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.25 U 0.37	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	56	U 2.0	20 B	1.1 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 1.0	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.51	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	U 2.0	7.7	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 0.5	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 19. Data Summary Table
Well RW-5

Tetrachloroethene	2.5	7.2	4.0	U 2.0	4.0	1.0 J	U 2.0	0.47 J	U 2.0	U 0.12	U 2.0	1.3 J	2.3	2.5	3.3	2.8	2.0 J	2.6
Trichloroethene	U 2.0	3.8	3.0	U 2.0	3.0	1.6 J	0.64 J	U 2.0	0.64 J	U 0.26	U 2.0	3.2	2.9	3.3	3.7	3.5	2.6	3.0
1,1-Dichloroethene	U 2.0	3.5	2.0	U 2.0	2.0 J	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	5.7	5.7	5.1	4.9	4.8	2.6	2.6
1,2-Dichloroethene	U 2.0	23.0	U 2.0	U 2.0	12 U 2.0	1.1 J U 2.0	0.48 J U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.25 U 0.37	U 2.0 U 2.0	21 U 2.0	27 U 2.0	27 U 2.0	27 U 2.0	27 U 2.0	16 U 2.0	20 U 2.0
Benzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	3.7	3.4	3.9	3.7	4.0	2.9	3.7
Ethylbenzene	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	U 2.0	U 2.0	U 2.0	U 2.0	58	U 2.0	20.8	1.1 J	U 10	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 5.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	U 10	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.51	U 2.0	U 2.0	U 2.0	0.52 J	0.73 J	0.72 J	U 2.0	U 2.0
Toluene	U 2.0	7.7	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	U 2.0	U 2.0	U 4.0	U 2.0	U 0.5	U 1.0 U 1.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 0.28 U 0.15	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.0 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0	U 2.3 U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04

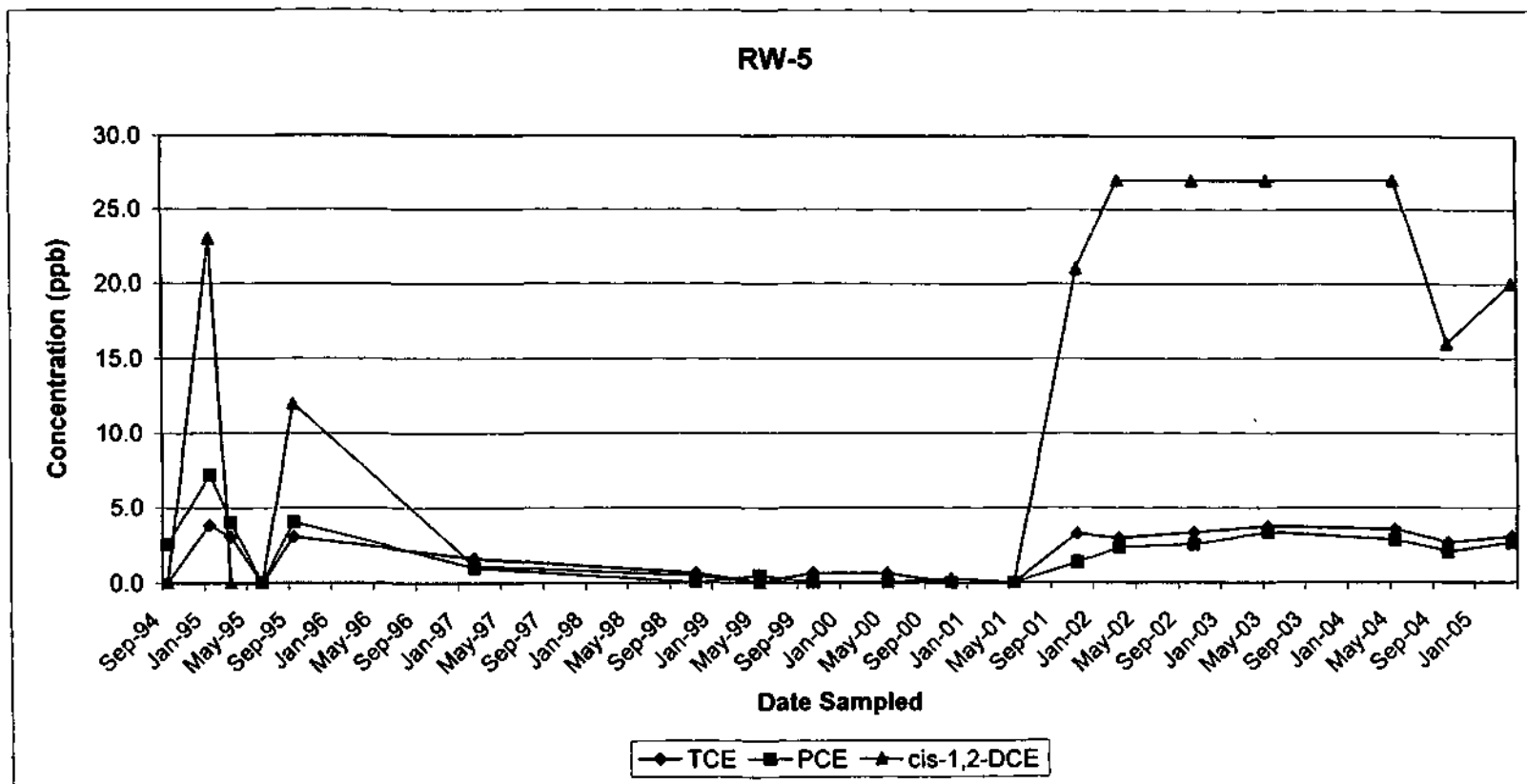


Table 20. Data Summary Table
Well URS-1

Tetrachloroethene	30	177	NA	140	90 E	130 D	410 D	110	180 D	190 D	190	110	190	7.8	120	88	U 48	170	5.4
Trichloroethene	119	1300	NA	320	140 E	210 D	150	57	130 D	220 D	160	78	160	47	85	39	63	130	21
1,1-Dichloroethene	U 2.0	U 10	NA	U 2.0	U 2.0	U 10 D	U 2.0	U 2.0	U 2.0	U 10	U 1.7	U 10	U 2.0	0.55 J	U 2.0	U 2.0	U 40	U 10	U 2.0
1,2-Dichloroethene	4.7	545	NA	U 2.0	180 E/U 2.0	380 D/7.9 DJ	140/4.6	170/4.5	150 D/4.4 DJ	360 D/10 D	370/8.8 J	300/6.6 J	340/13	450/11	520/15 J	93/3.3	1,200/20 J	620/13	360/17
Benzene	NA	U 10	NA	U 2.0	U 2.0	U 5.0 D	0.61 J	0.61 J	U 10	U 10	U 0.88	U 10	U 2.0	3.9	U 2.0	U 2.0	U 40	U 10	U 1.0
Chlorobenzene	U 2.0	U 10	NA	U 2.0	U 2.0	U 10 D	U 2.0	U 2.0	U 10	U 10	0.55	U 10	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 10	U 2.0
Ethylbenzene	U 2.0	99	NA	74	120 E	U 5.0 D	U 2.0	U 2.0	U 10	U 10	U 0.93	U 10	U 2.0	0.76 J	U 2.0	U 2.0	U 40	U 10	U 2.0
Methylene Chloride	U 2.0	36 B	NA	U 2.0	48	U 10 D	2.7 JB	9.9 JB	U 50	U 25	U 5.8	U 25	U 5.0	U 5.0	11 JB	U 5.0	U 100	U 25	U 5.0
1,2-Dichlorobenzene	U 10	NA	NA	5.9	5.0	U 25 D	U 2.0	U 2.0	U 10	U 10	U 0.55	U 10	1.1 J	0.45 J	U 2.0	U 2.0	U 40	U 10	0.50 J
1,4-Dichlorobenzene	U 10	NA	NA	5.1	4.0	U 10 D	1.3 J	1.3 J	U 10	U 10	U 0.50	U 10	0.83 J	U 2.0	U 2.0	U 2.0	U 40	U 10	U 2.0
Toluene	U 2.0	44 B	NA	U 2.0	U 2.0	U 5.0 D	U 2.0	U 2.0	U 10	U 10	U 1.3	U 10	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 10	U 2.0
Xylenes	U 2.0	213	NA	280	120 E	27 D/180 D	U 2.0/0.49 J	U 2.0/0.49 J	U 10/U 10	U 10/U 10	U 1.4/U 0.76	U 10/U 10	U 2.0/U 2.0	0.56 J/7.1	U 2.0/U 2.0	U 2.0/U 2.0	U 45/U 40	U 11/U 10	U 2.3/1.9 J
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

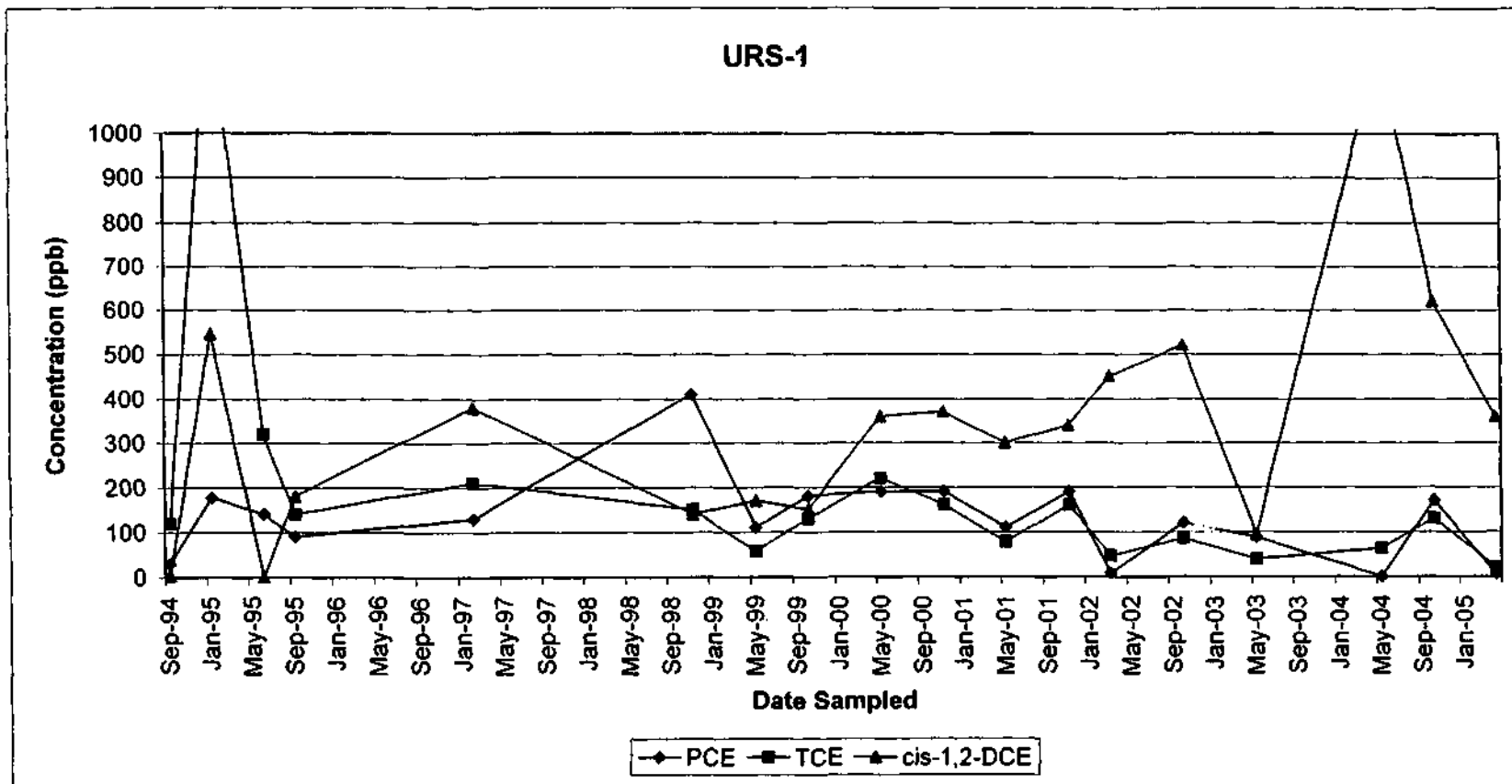


Table 21. Data Summary Table

Well URS-21

Tetrachloroethene	NA	NA	NA	2.2	NA	U 20 D	U 2.0	U 2.0	U 2.0	U 20	U 1.2	U 2.0	1.0 J	U 2.0	U 2.0	U 2.0	U 48	U 24	U 2.4
Trichloroethene	NA	NA	NA	5.3	NA	U 20 D	U 2.0	U 2.0	U 2.0	U 20	U 2.6	2.2	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 20	U 2.0
1,1-Dichloroethene	NA	NA	NA	U 2.0	NA	U 20 D	U 2.0	U 2.0	U 2.0	U 20	U 3.5	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 20	U 2.0
1,2-Dichloroethene	NA	NA	NA	U 2.0	NA	U 30 D/U 20 D	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 20/U 20	U 2.5/U 3.7	2.0 J/U 2.0	2.9/U 2.0	1.4/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 40/U 40	U 20/U 20	U 2.0/U 2.0
Benzene	NA	NA	NA	750	NA	2400 D	2400 D	1500 D	1000 D	1300 D	1200	1900	1900	1700	70	1100	1300	1100	640
Chlorobenzene	NA	NA	NA	27 J	NA	U 50 D	U 2.0	U 2.0	U 10	U 20	U 1.1	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 20	U 2.0
Ethylbenzene	NA	NA	NA	40	NA	90 D	95	66 D	46 D	59 D	39	94	100	130	4.2	84	84	66	82
Methylene Chloride	NA	NA	NA	U 2.0	NA	32 D	U 10	11 DB	U 50	U 50	U 12	U 5.0	U 5.0	U 5.0	2.4 JB	U 5.0	U 100	U 50	U 5.0
1,2-Dichlorobenzene	NA	NA	NA	U 2.0	NA	U 50 D	U 2.0	U 2.0	U 10	U 20	U 0.56	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 20	U 2.0
1,4-Dichlorobenzene	NA	NA	NA	U 2.0	NA	U 20 D	U 2.0	U 2.0	U 10	U 20	U 0.51	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 40	U 20	U 2.0
Toluene	NA	NA	NA	14	NA	30 D	U 30	19 DJ	15 D	18 DJ	14 J	27	28	27	1.0 J	20	21 J	13 J	15
Xylenes	NA	NA	NA	575	NA	22 D/690 D	17/760 D	15 DJ/520 D	13 DJ/460 D	14 DJ/580 D	14 J/420	19/870	17/400	16/590	0.69 J/29	16/720	U 45/680	10 J/600	14/480
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

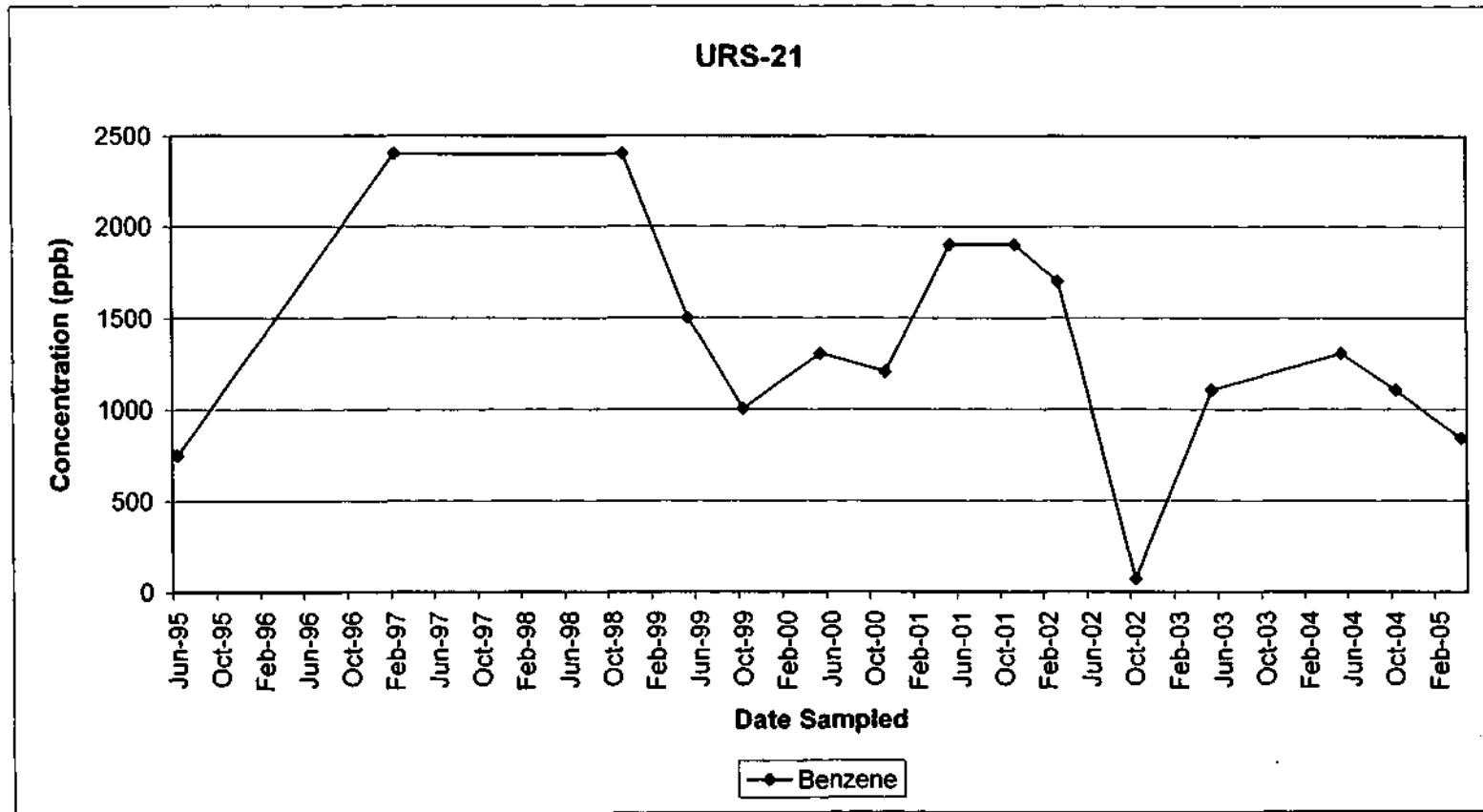


Table 22. Data Summary Table
Well CV-1

Tetrachloroethene	NA	NA	NA	NA	NA	U 2.0	0.43 J	U 2.0	U 2.0	U 2.0	1.1 J	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.4	U 2.4	U 2.4
Trichloroethene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.26	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,1-Dichloroethene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	NA	NA	NA	NA	NA	U 3.0/U 2.0	0.95 J/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.25/U 0.37	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0
Benzene	NA	NA	NA	NA	NA	U 1.0	0.58 J	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	NA	NA	NA	NA	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	NA	NA	NA	NA	NA	U 2.0	2.2 JB	1.2 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	NA	NA	NA	NA	NA	U 1.0	U 2.0	2.8	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	NA	NA	NA	NA	NA	U 1.0/U 1.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.28/U 0.15	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

Table 23. Data Summary Table
Well SW-2

Tetrachloroethene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.12	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.4	U 2.4	U 2.4
Trichloroethene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.26	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,1-Dichloroethene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.35	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,2-Dichloroethene	NA	NA	NA	NA	NA	U 3.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.25/U 0.37	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0
Benzene	NA	NA	NA	NA	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.18	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 1.0
Chlorobenzene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.11	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Ethylbenzene	NA	NA	NA	NA	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.19	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Methylene Chloride	NA	NA	NA	NA	NA	U 2.0	2.0 JB	1.0 J	U 1.0	U 5.0	U 1.2	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0	U 5.0
1,2-Dichlorobenzene	NA	NA	NA	NA	NA	U 5.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.55	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
1,4-Dichlorobenzene	NA	NA	NA	NA	NA	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.50	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Toluene	NA	NA	NA	NA	NA	U 1.0	U 2.0	U 2.0	U 2.0	U 2.0	U 0.25	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0	U 2.0
Xylenes	NA	NA	NA	NA	NA	U 1.0/U 1.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 0.28/U 0.15	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.0/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0	U 2.3/U 2.0
Date Sampled	9/94	1/95	3/95	6/95	9/95	2/97	11/98	5/99	10/99	5/00	11/00	5/01	11/01	3/02	10/02	5/03	5/04	10/04	4/05

APPENDIX D

LIST OF DOCUMENTS REVIEWED

1. Site-Wide Remedial Investigation/Site Characterization Report, March 1988.
2. ROD for OU 1, September 1989.
3. ESD for OU 1, September 1993.
4. ROD for OU 2, June 1993.
5. ROD for OU 3/6, June 1993.
6. ROD for OU 4, April 1994.
7. ROD for OU 5, September 1990.
8. ROD Amendment for OU 5, September 1993.
9. Final Remedial Action Completion Report for OU 3/6, October 1994.
10. Remedial Action Completion Report for OU 5, October 1994.
11. Preliminary Site Closeout Report, September 1994.
12. Final Remedial Action Completion Report OU 1 and OU 4, September 20, 1995 and Appendix B Quality Assurance Report November 3, 1995.
13. Amendment # 4 to the Superfund State Contract for the Sand Creek Industrial Site; OU 1, OU 4, OU 5, effective June 24, 1995.
14. Applicable or Relevant and Appropriate Requirements Analysis for the Sand Creek Superfund Site, September 1995.
15. Five-Year Review Report, September 20, 1995.
16. Pollution Report Final revised November 15, 1995.
17. Final Close-Out Report, November 21, 1995.
18. Sand Creek Industrial Site Operable Unit IV, Semiannual Ground Water Summary Report, Colorado Department of Public Health and Environment, Commerce City, Colorado, April 2005.
19. Operation and Maintenance Report, Remedial Design/Remedial Action, 48th and Holly Landfill, MACTEC Engineering, Commerce City, Colorado, December 2004.